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TALES CALCULATED TO DRIVE YOU



No. 17
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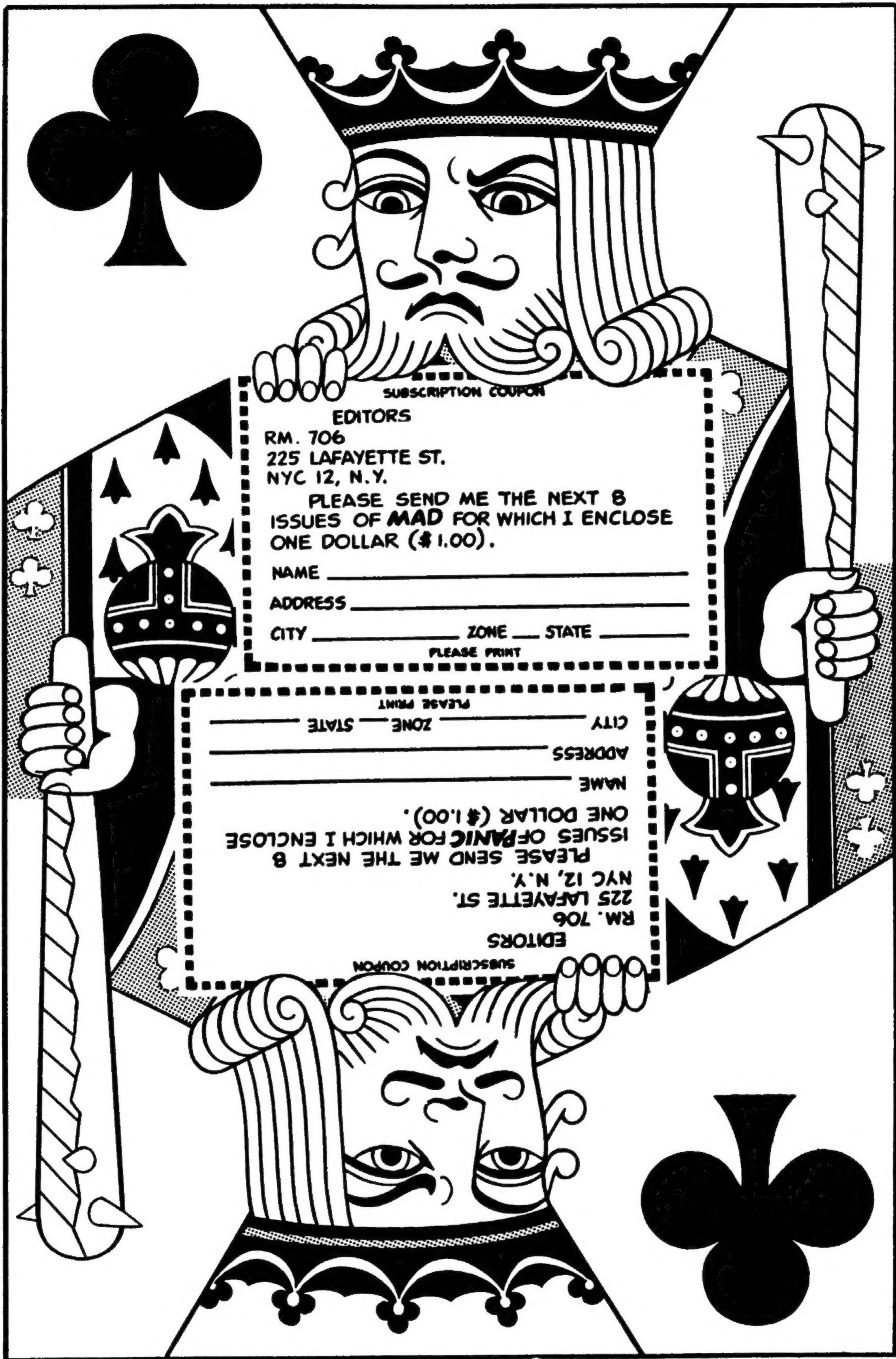
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ATTENTION!

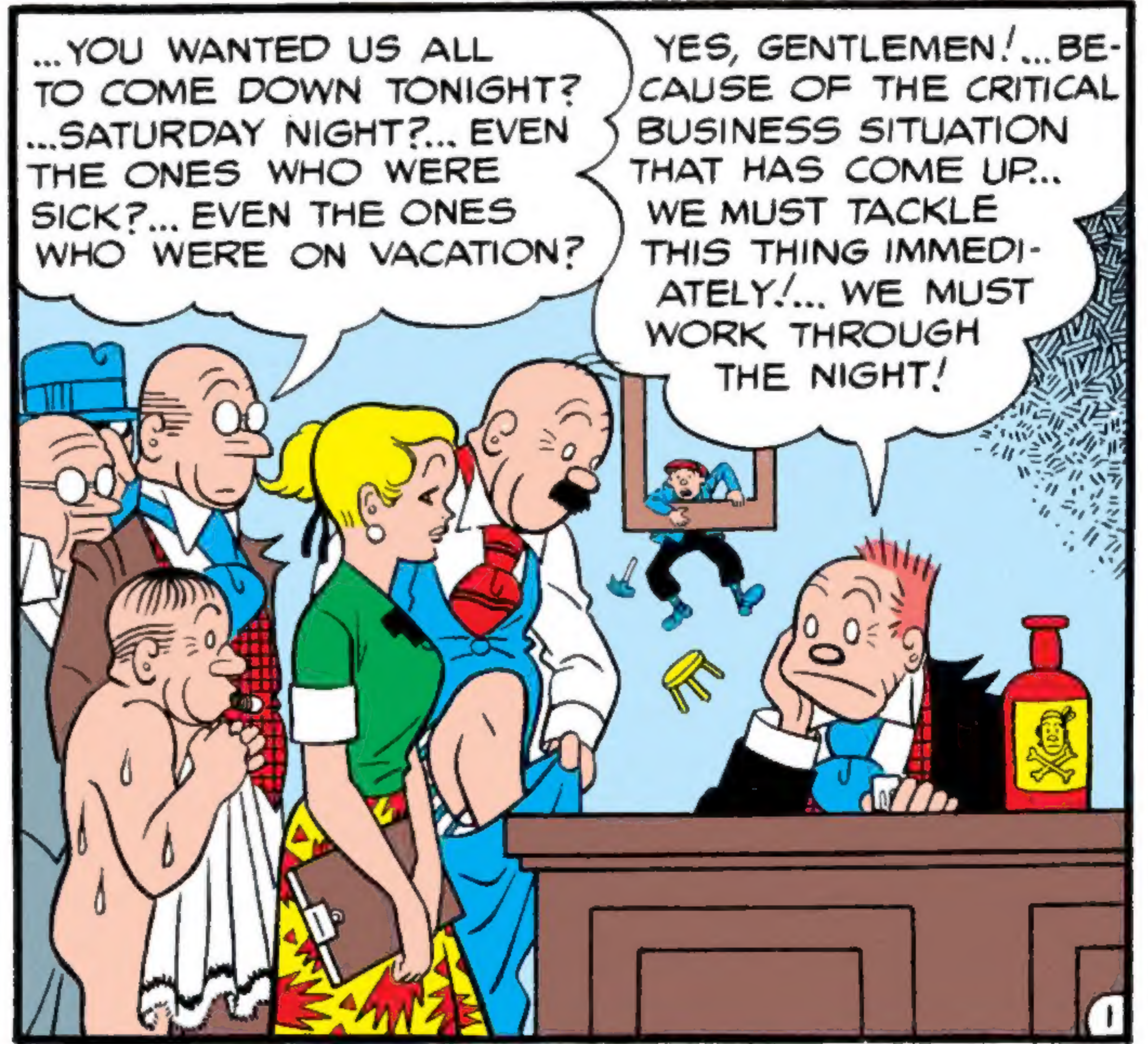
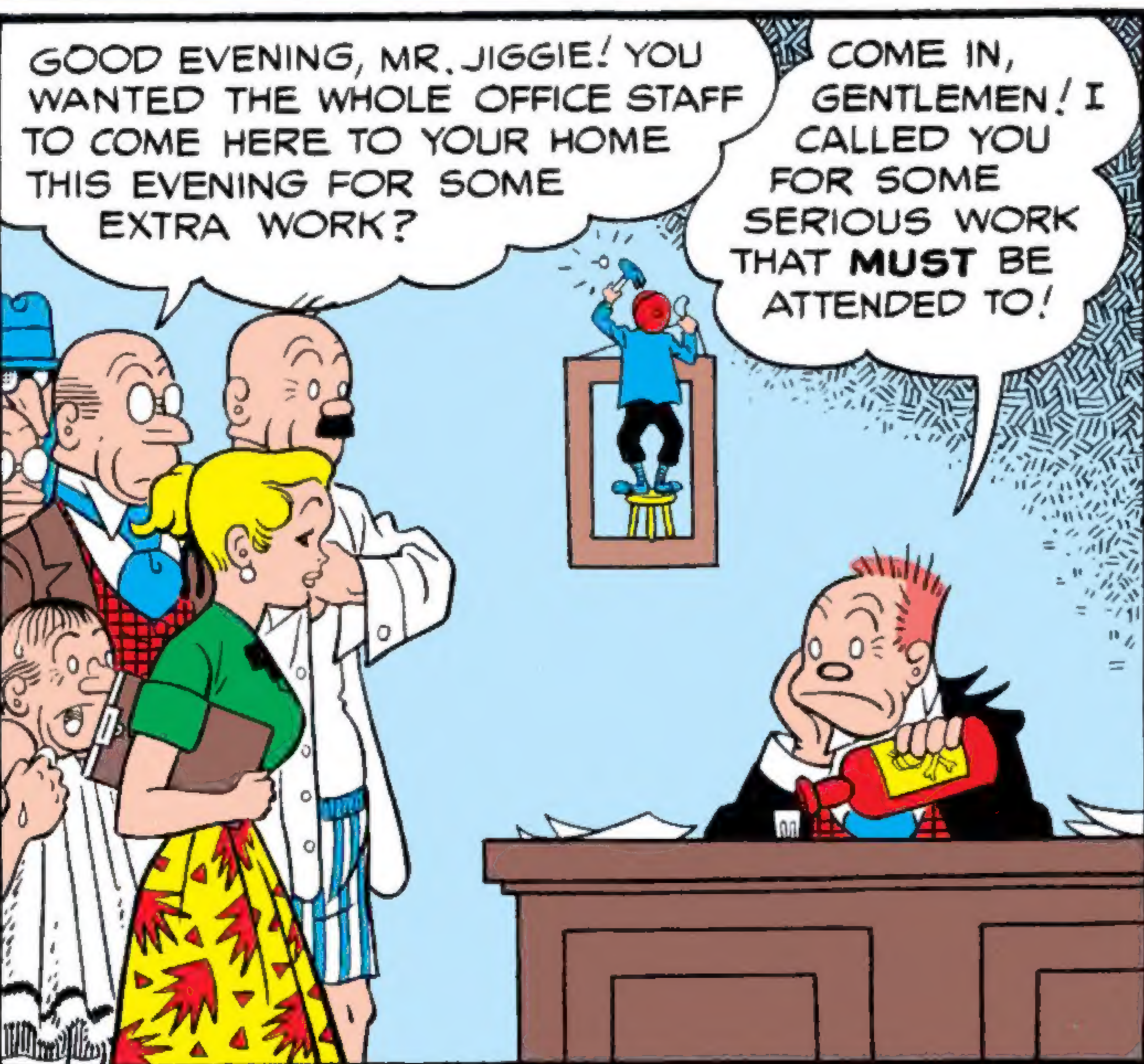
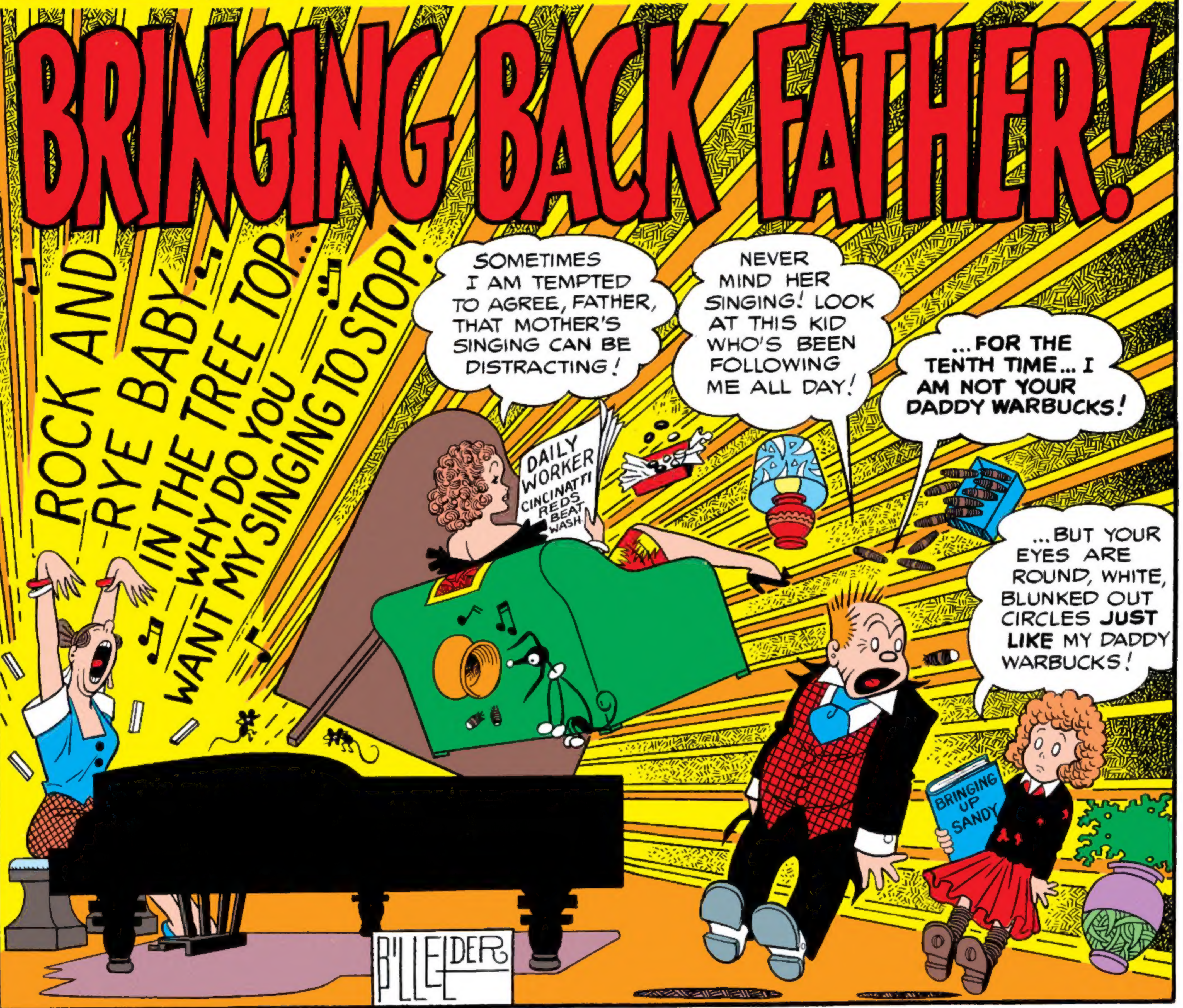
**This issue is
going to change
your whole view-
point of MAD...**

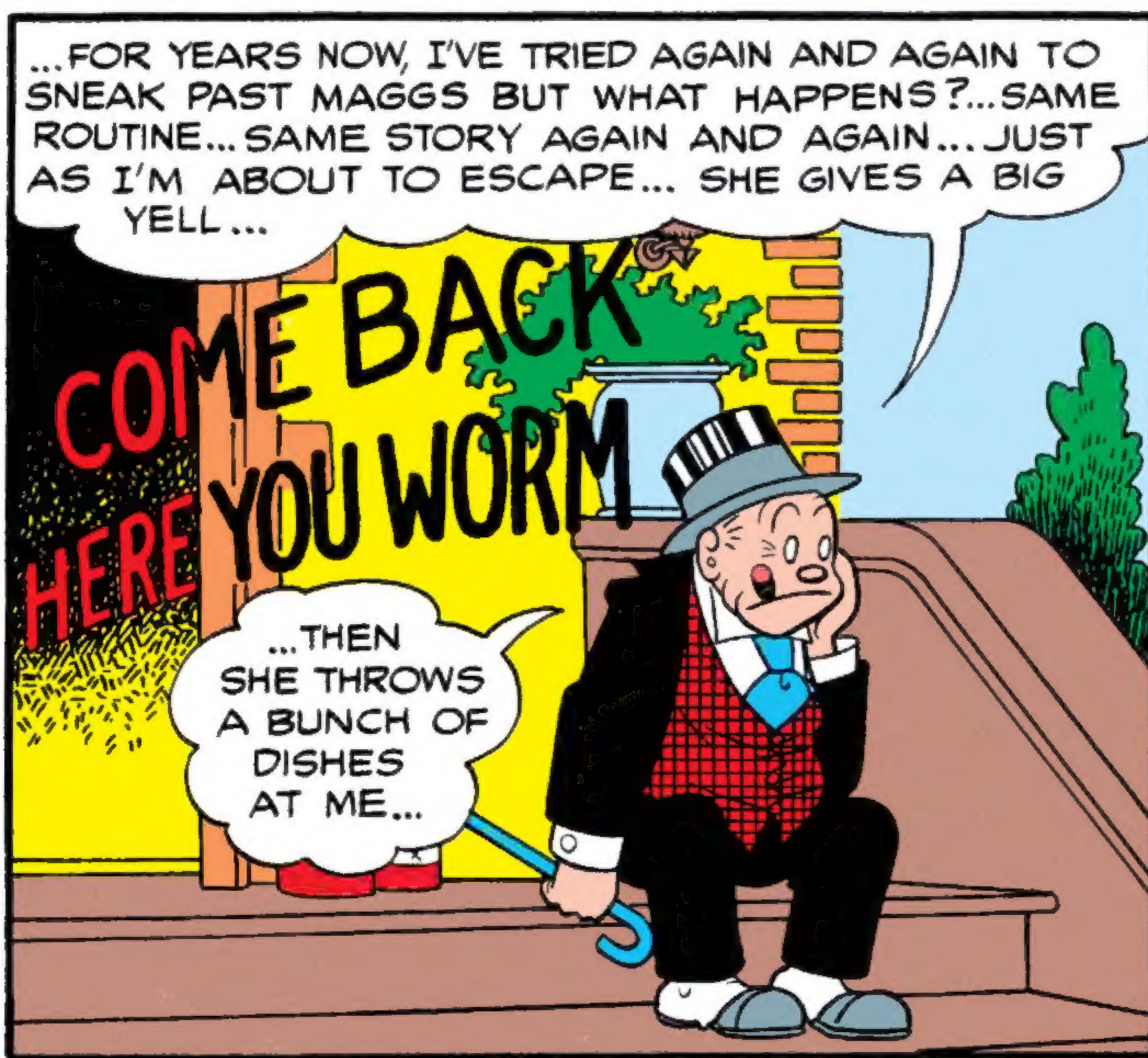
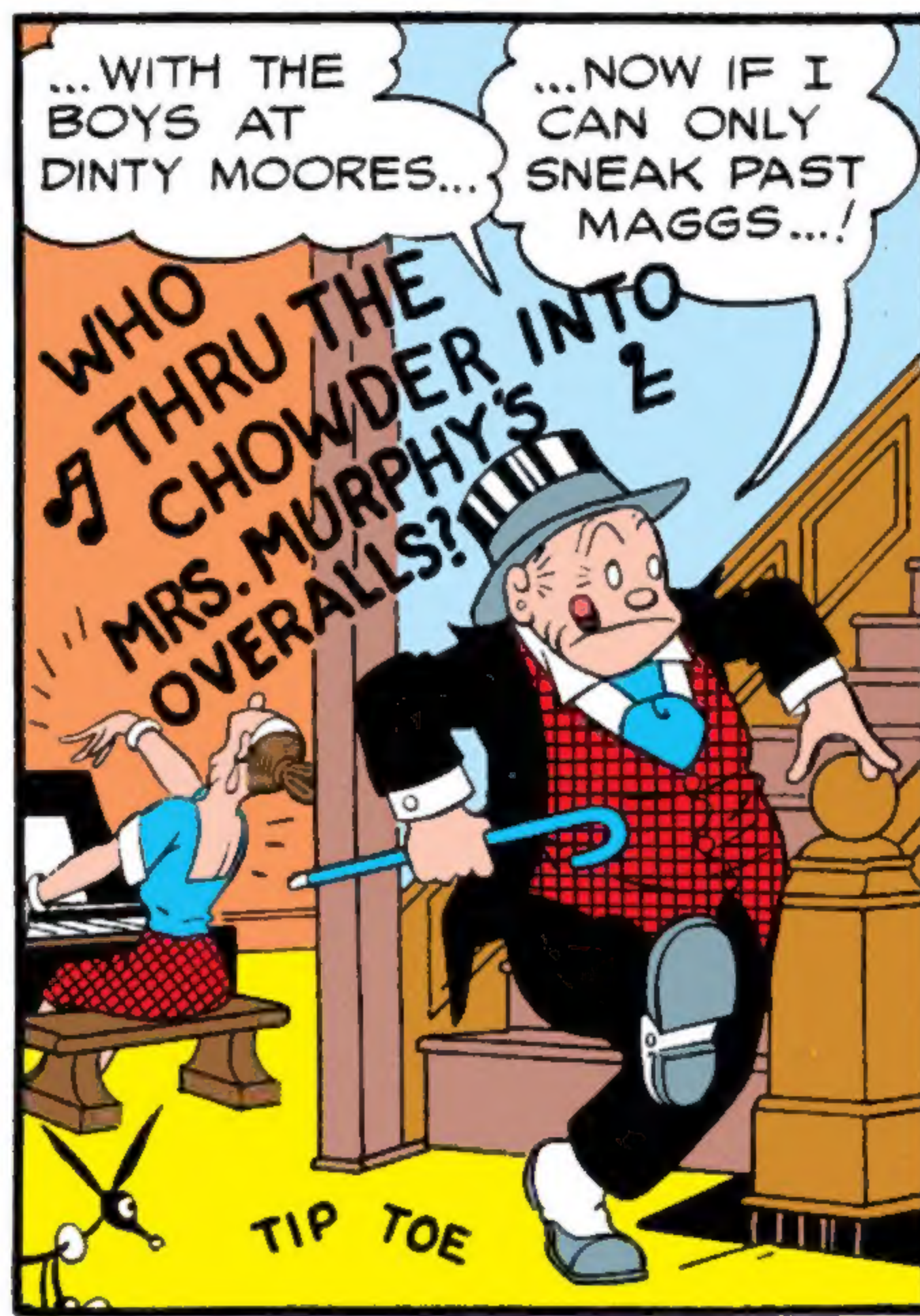
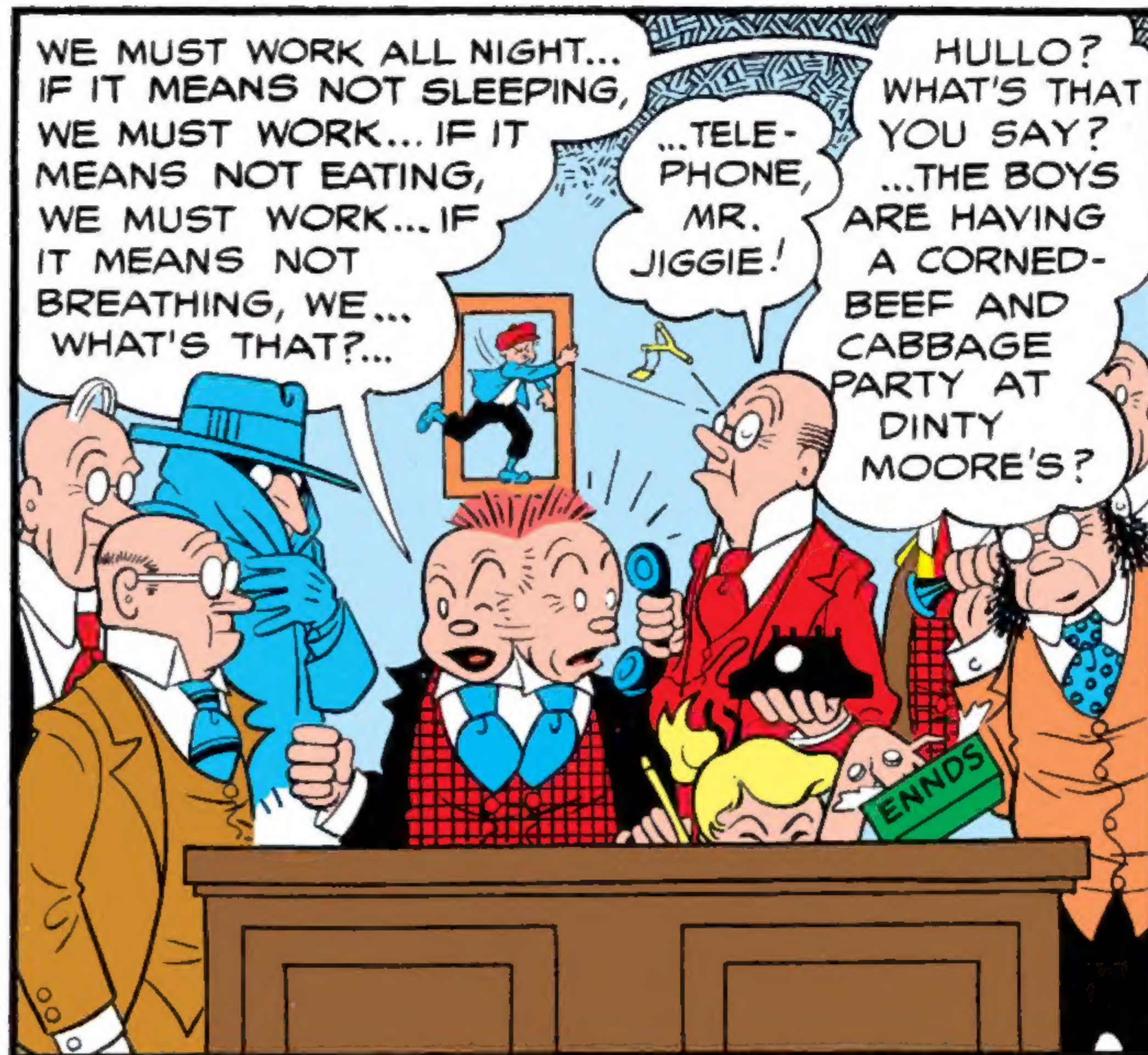
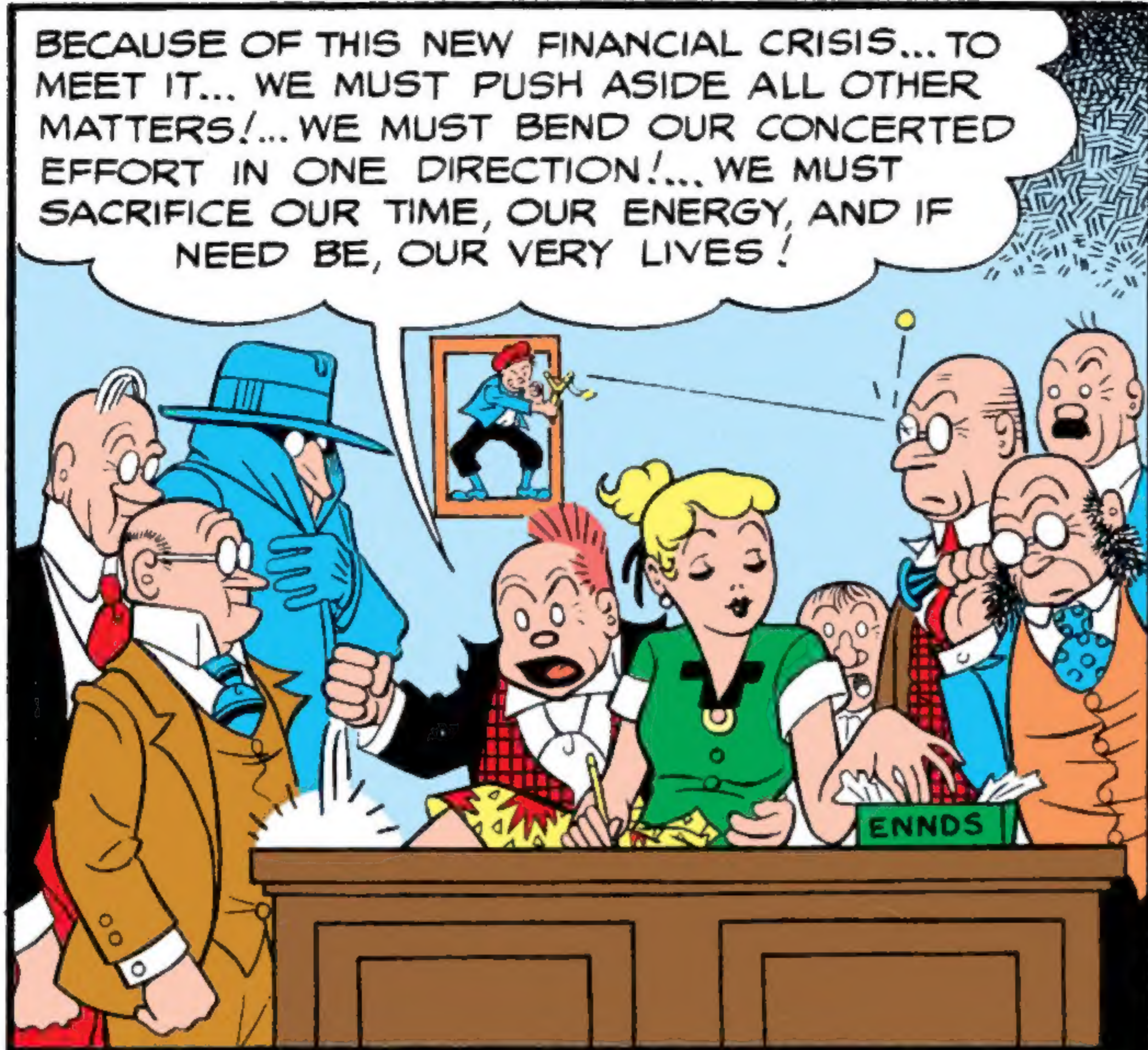
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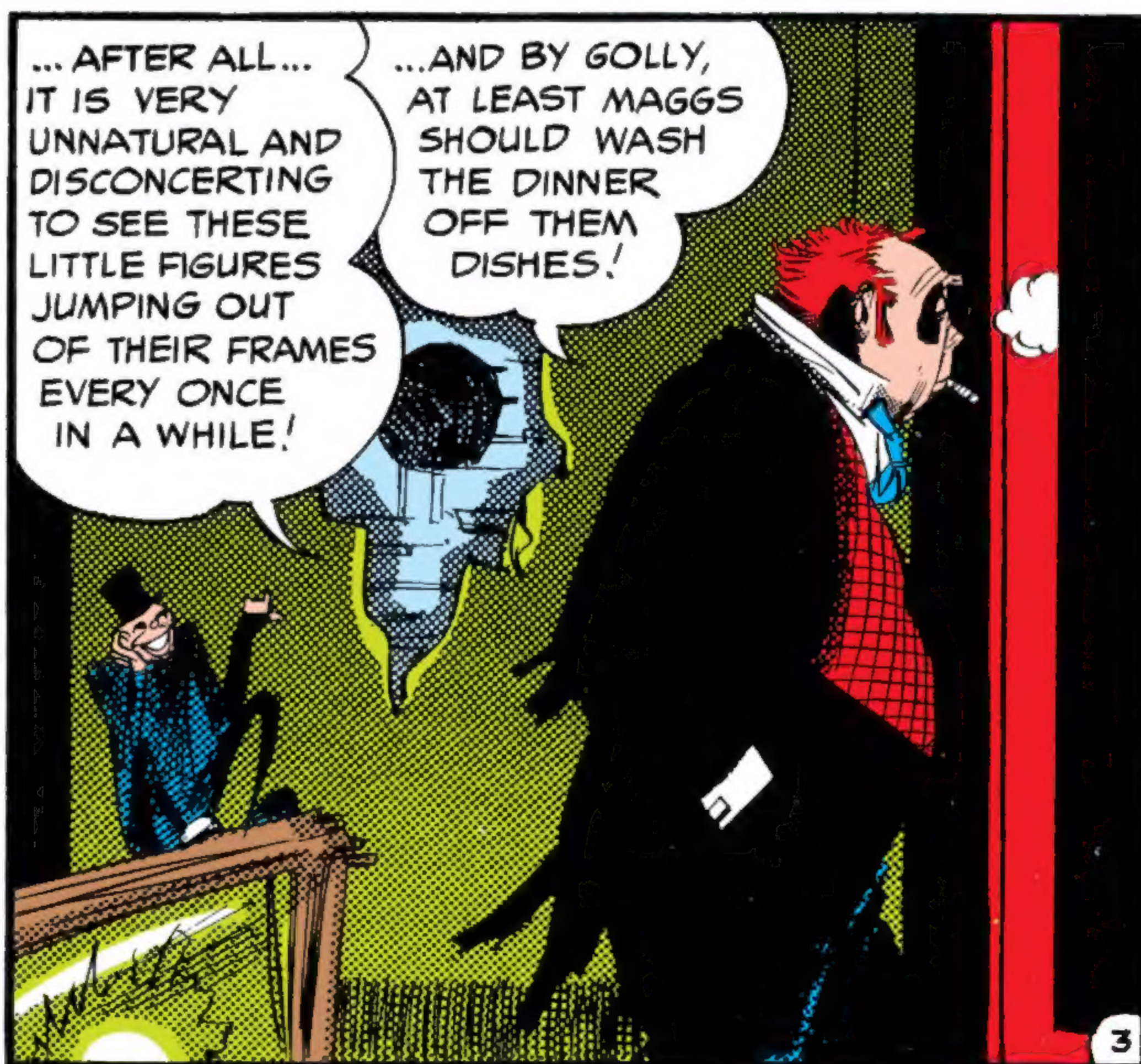
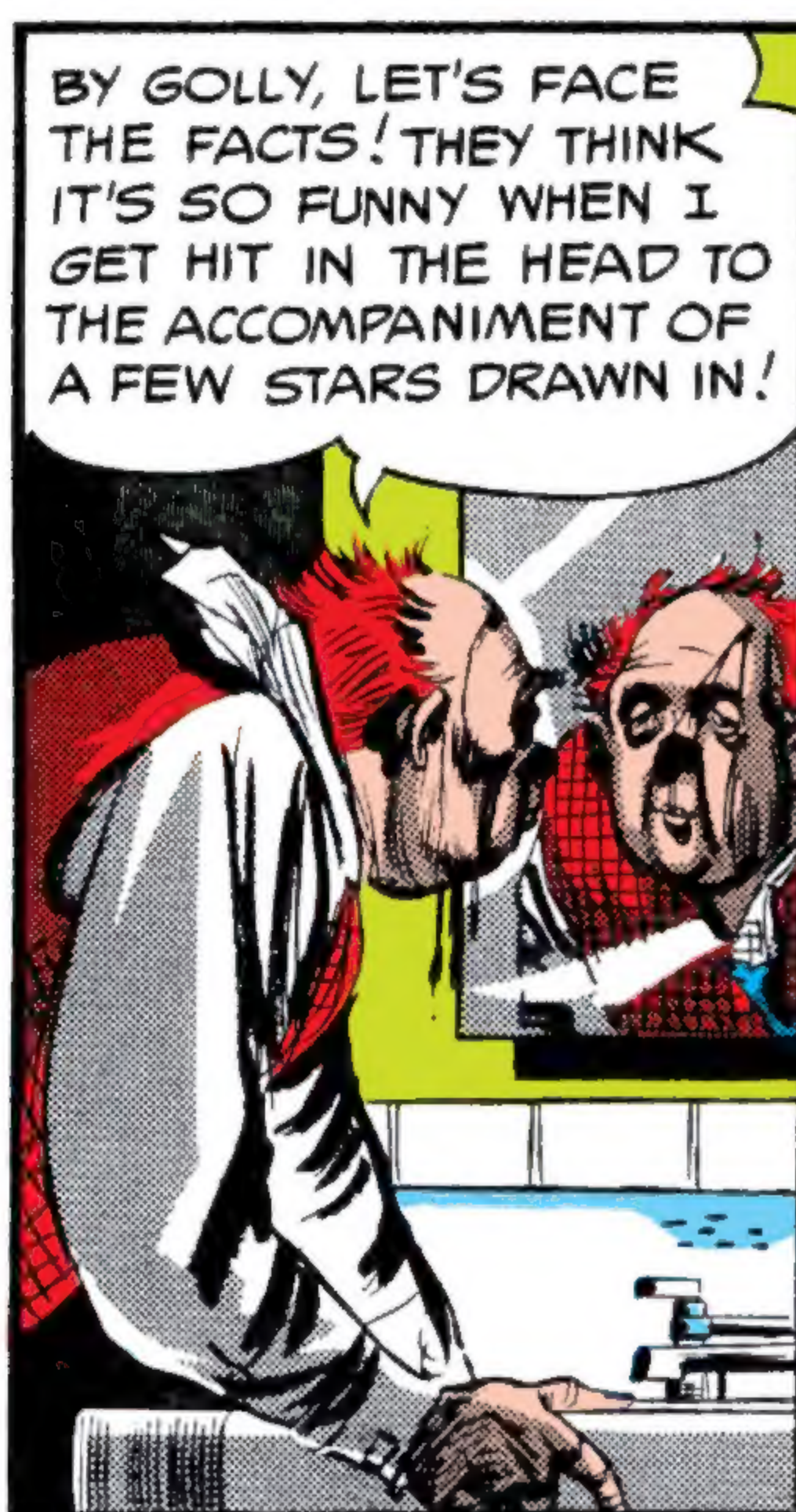
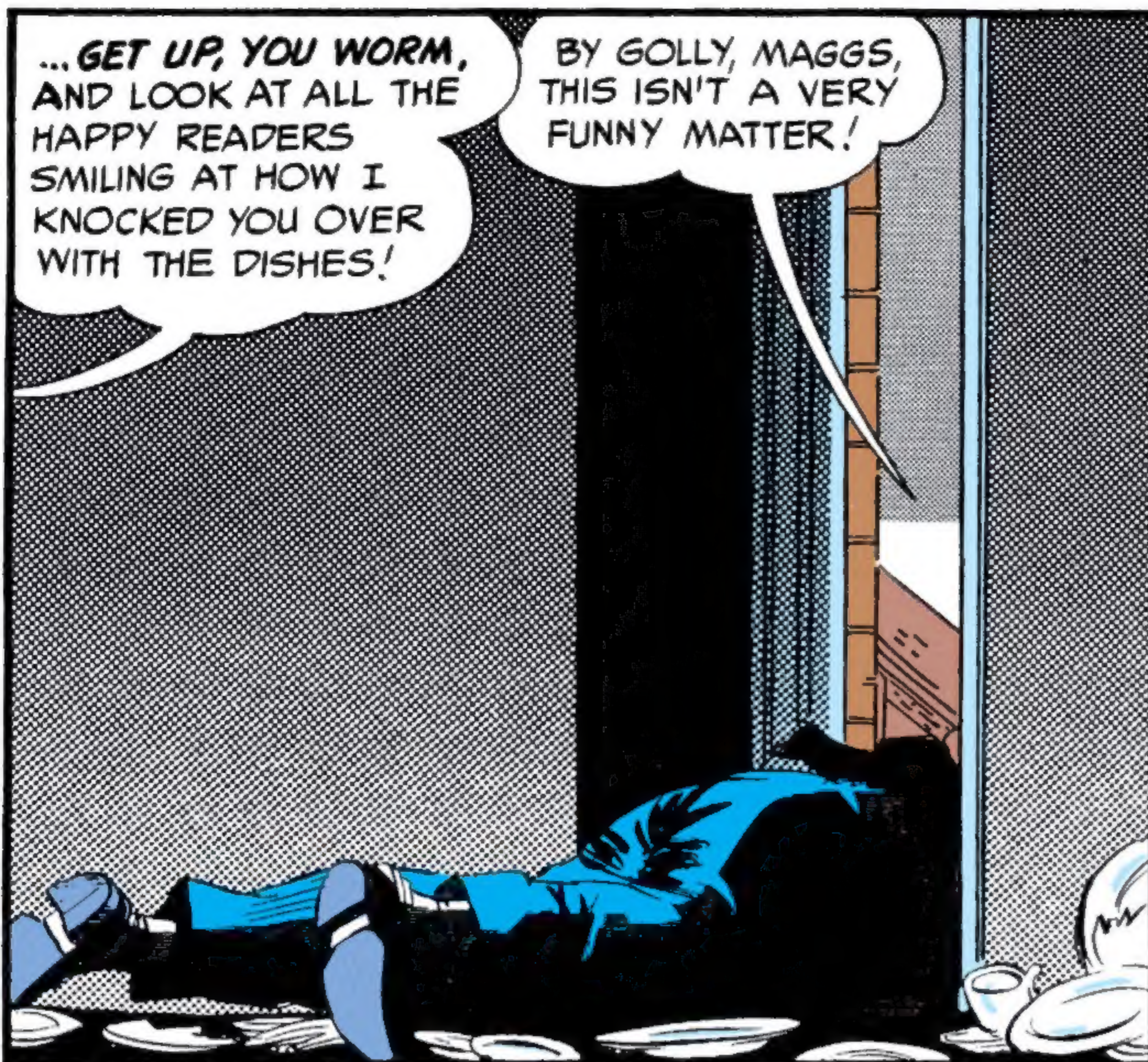


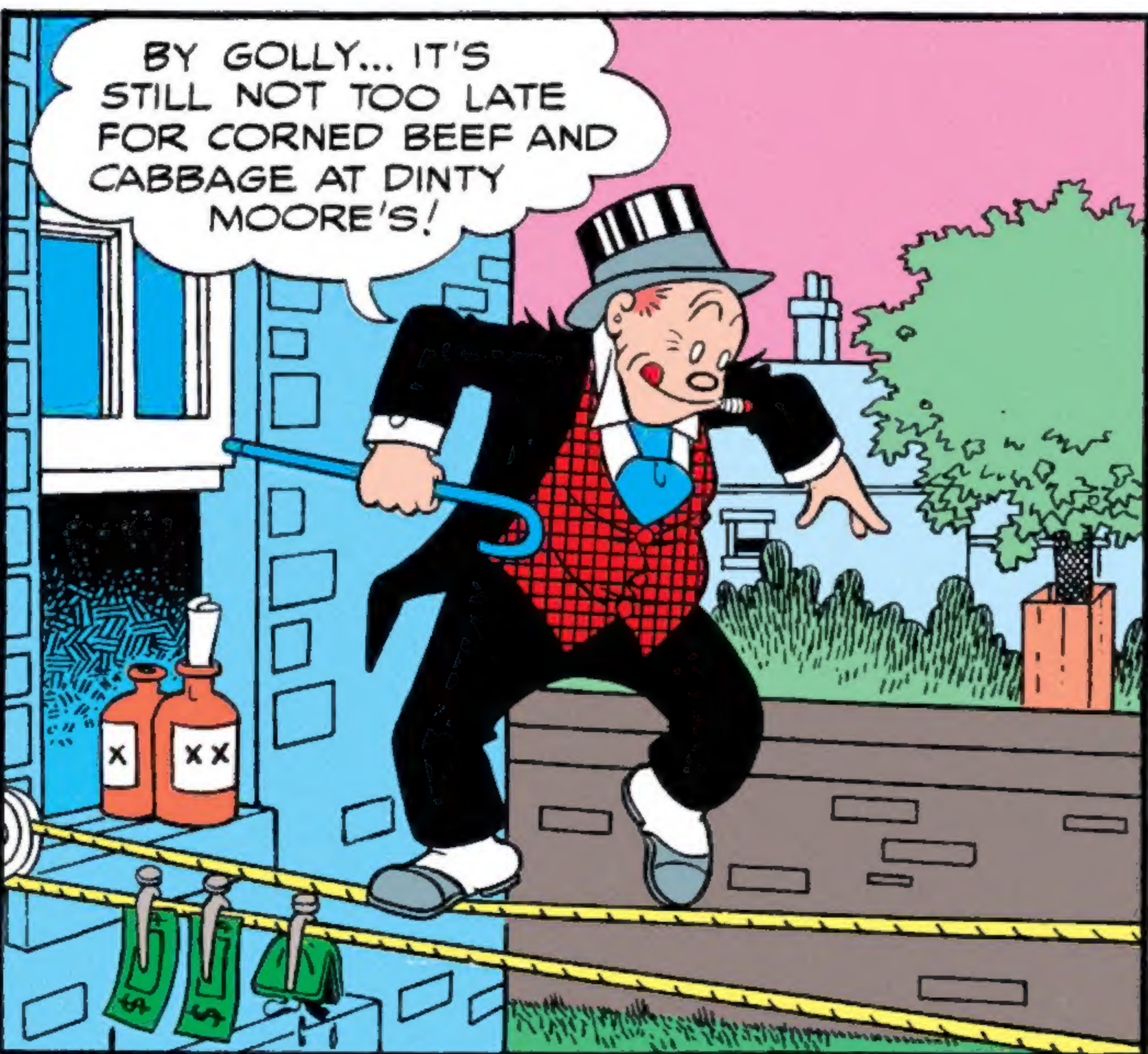
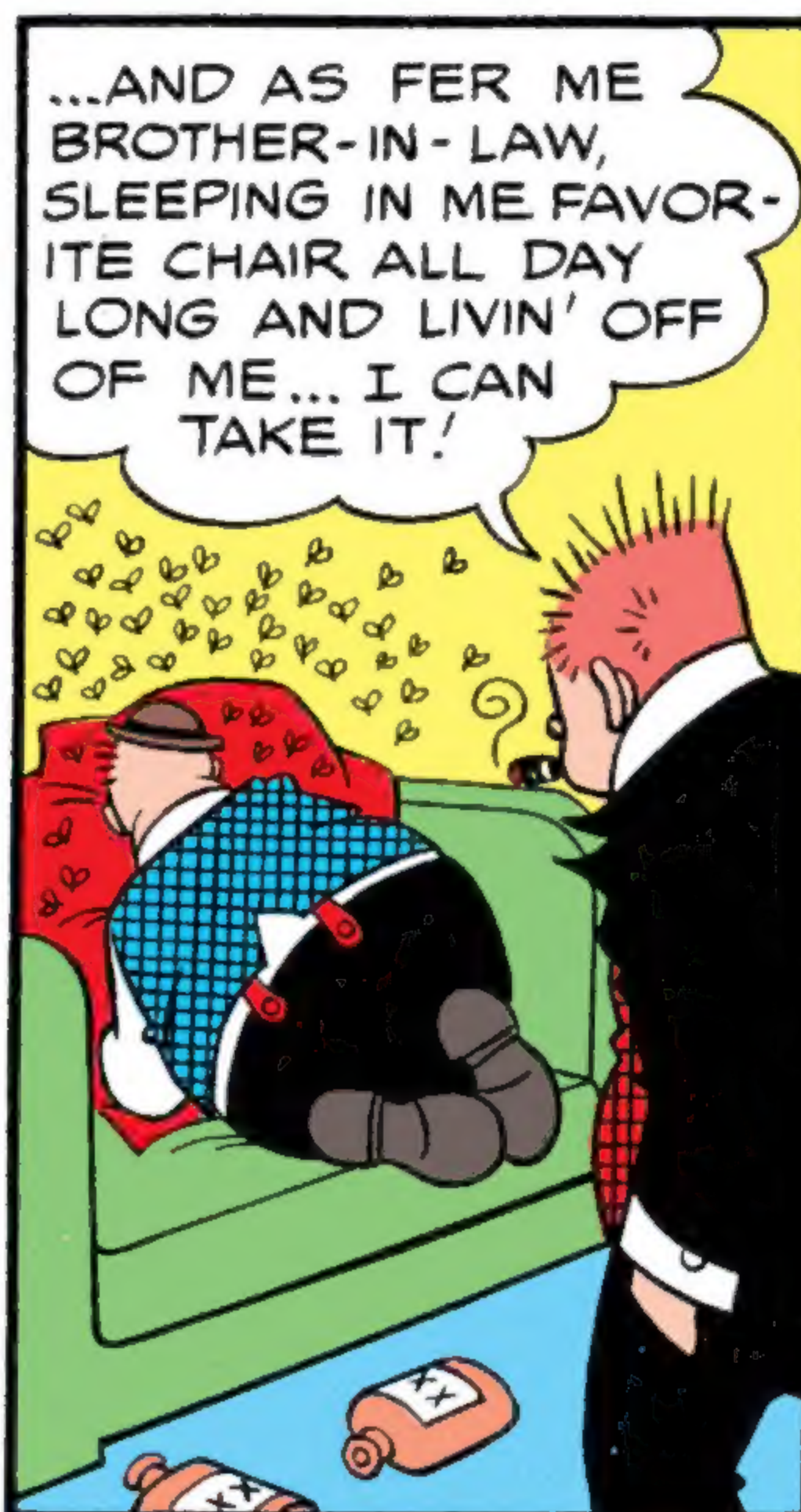
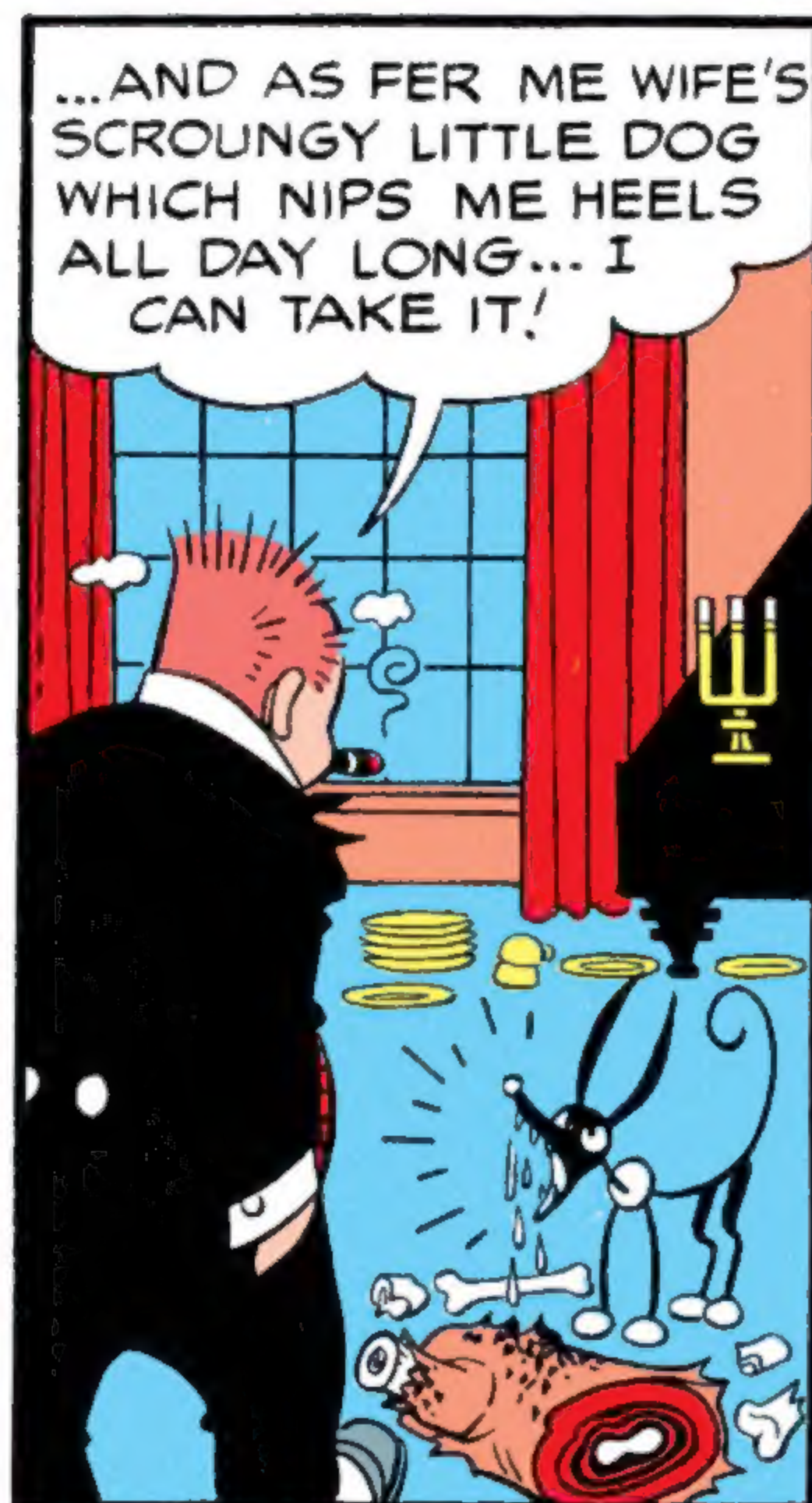
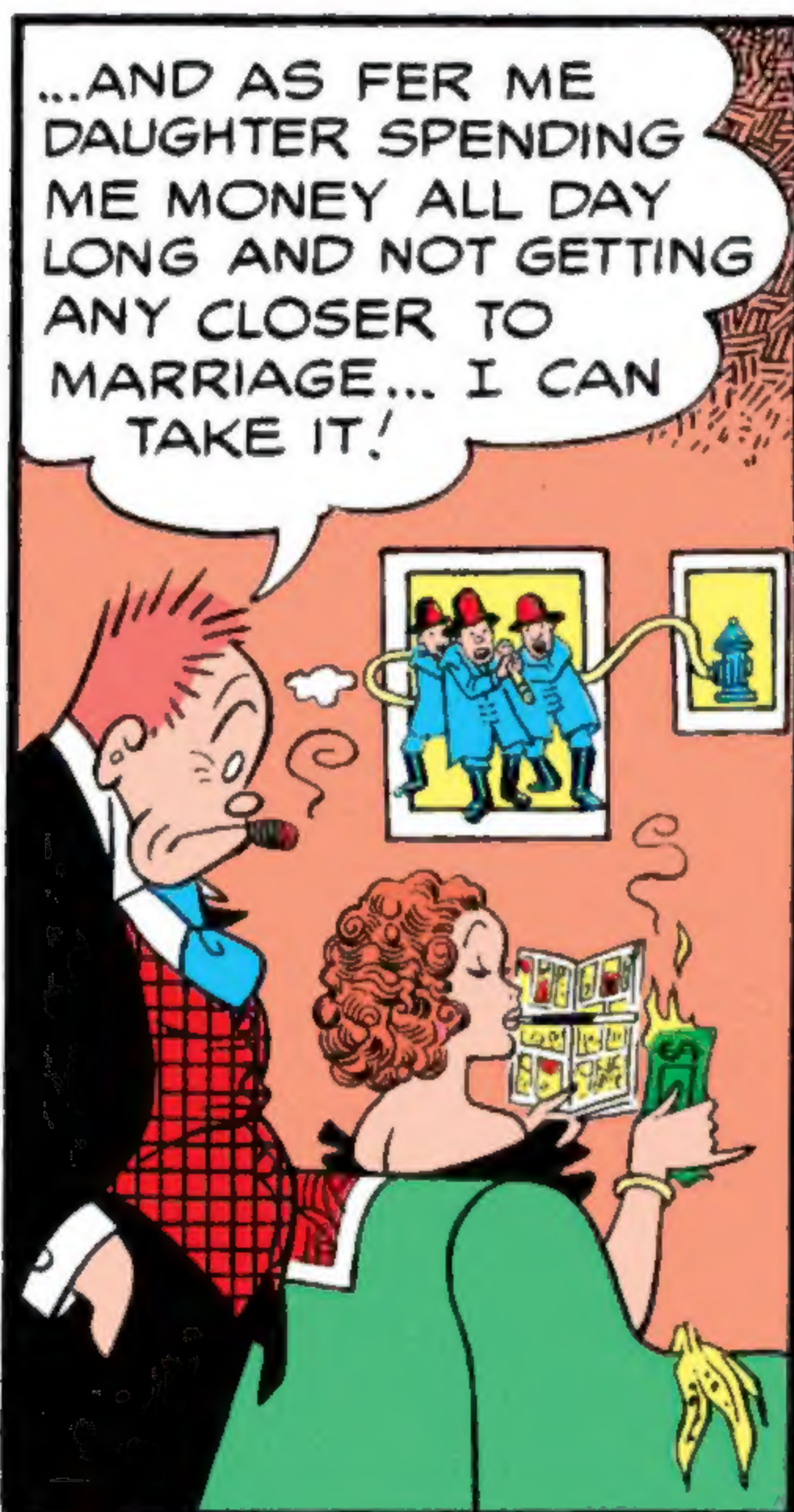
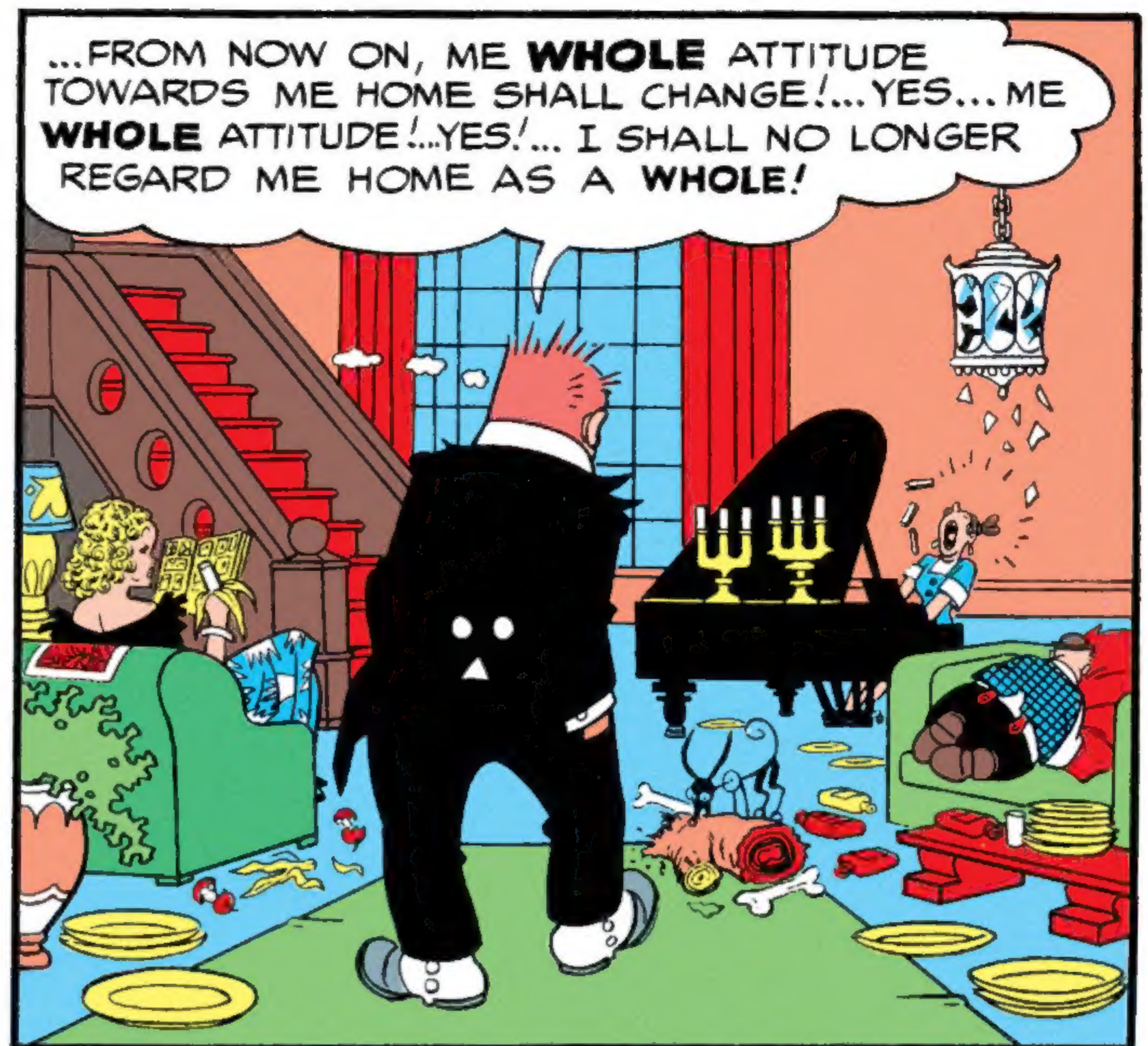
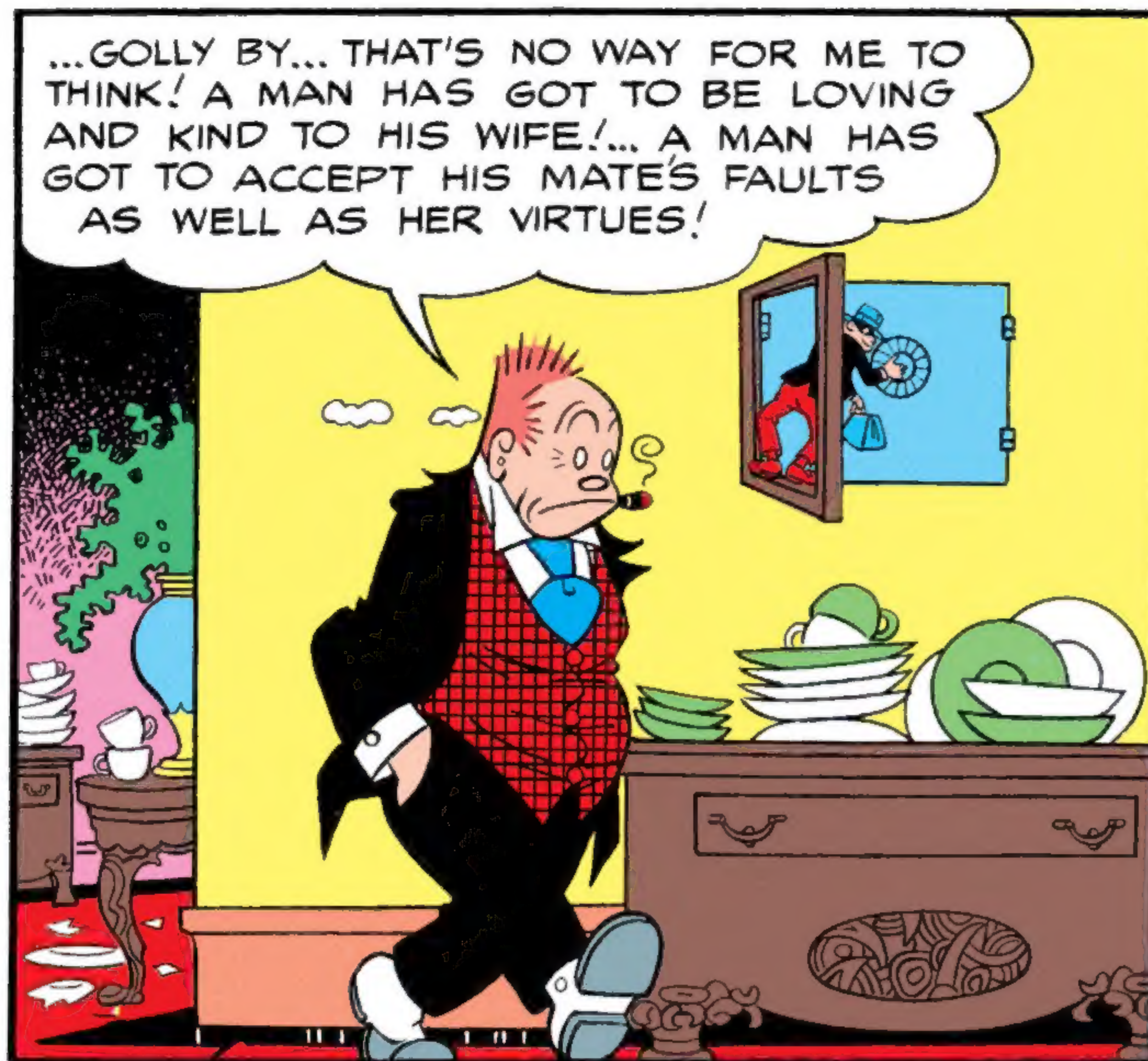
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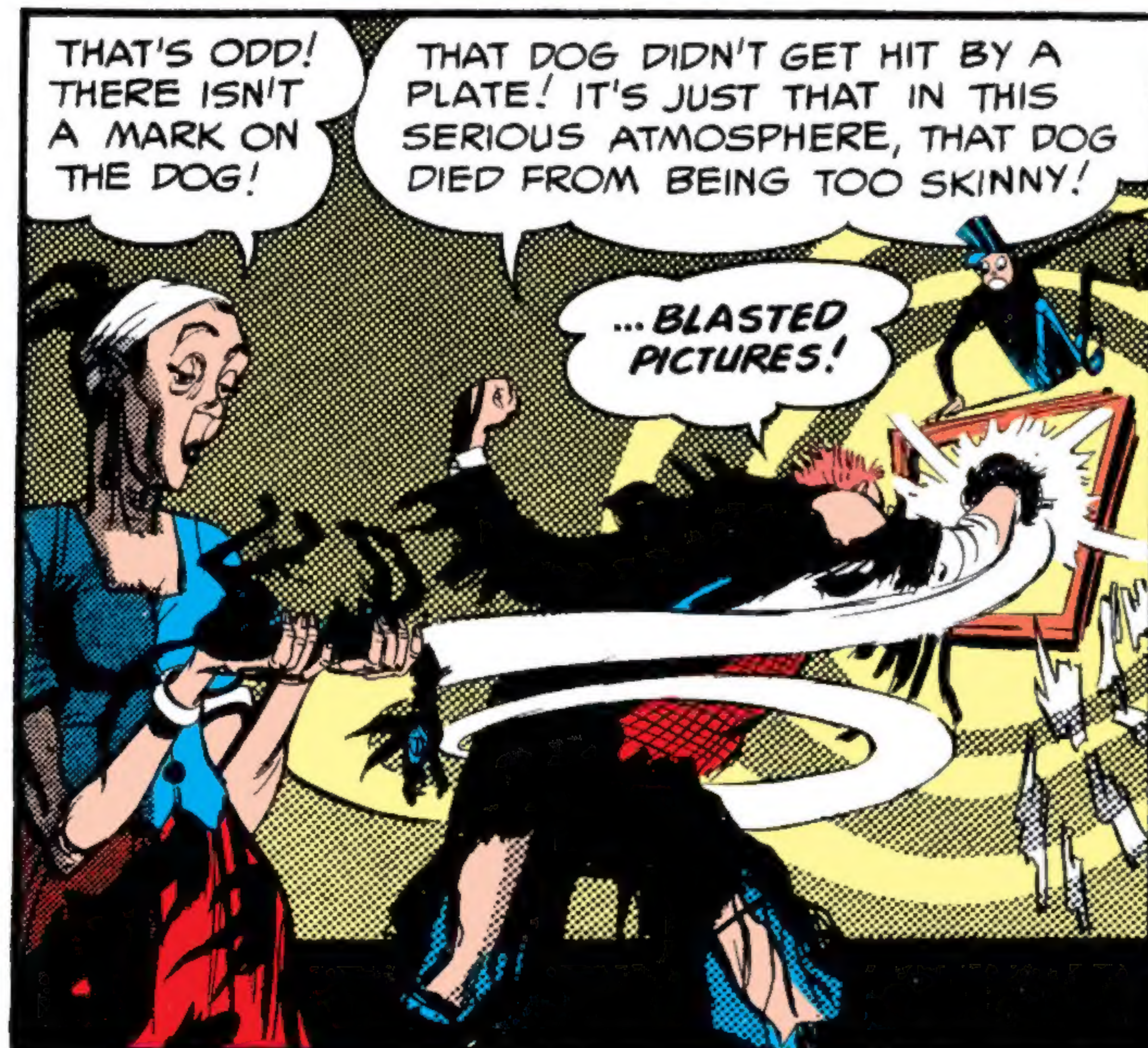
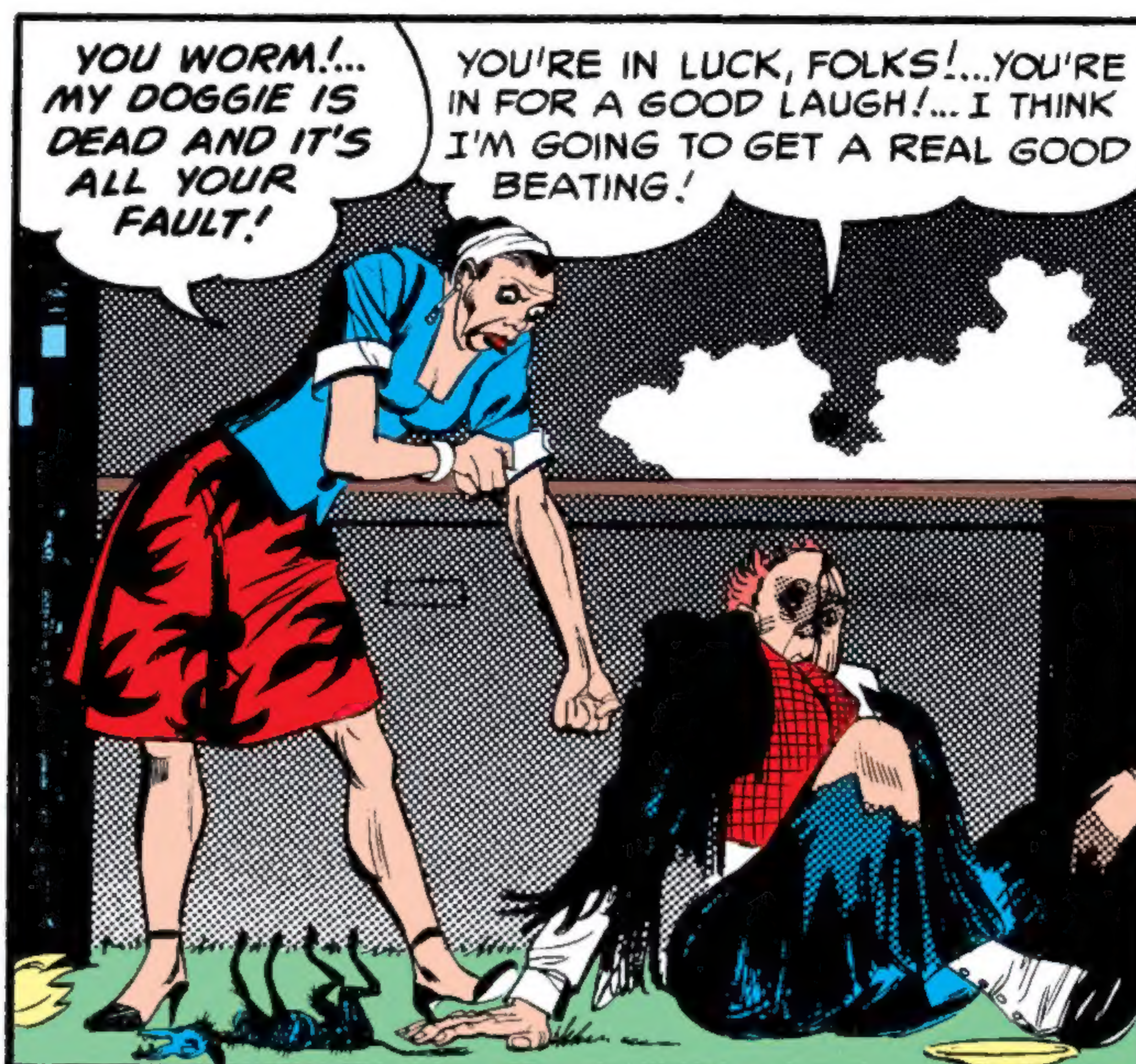
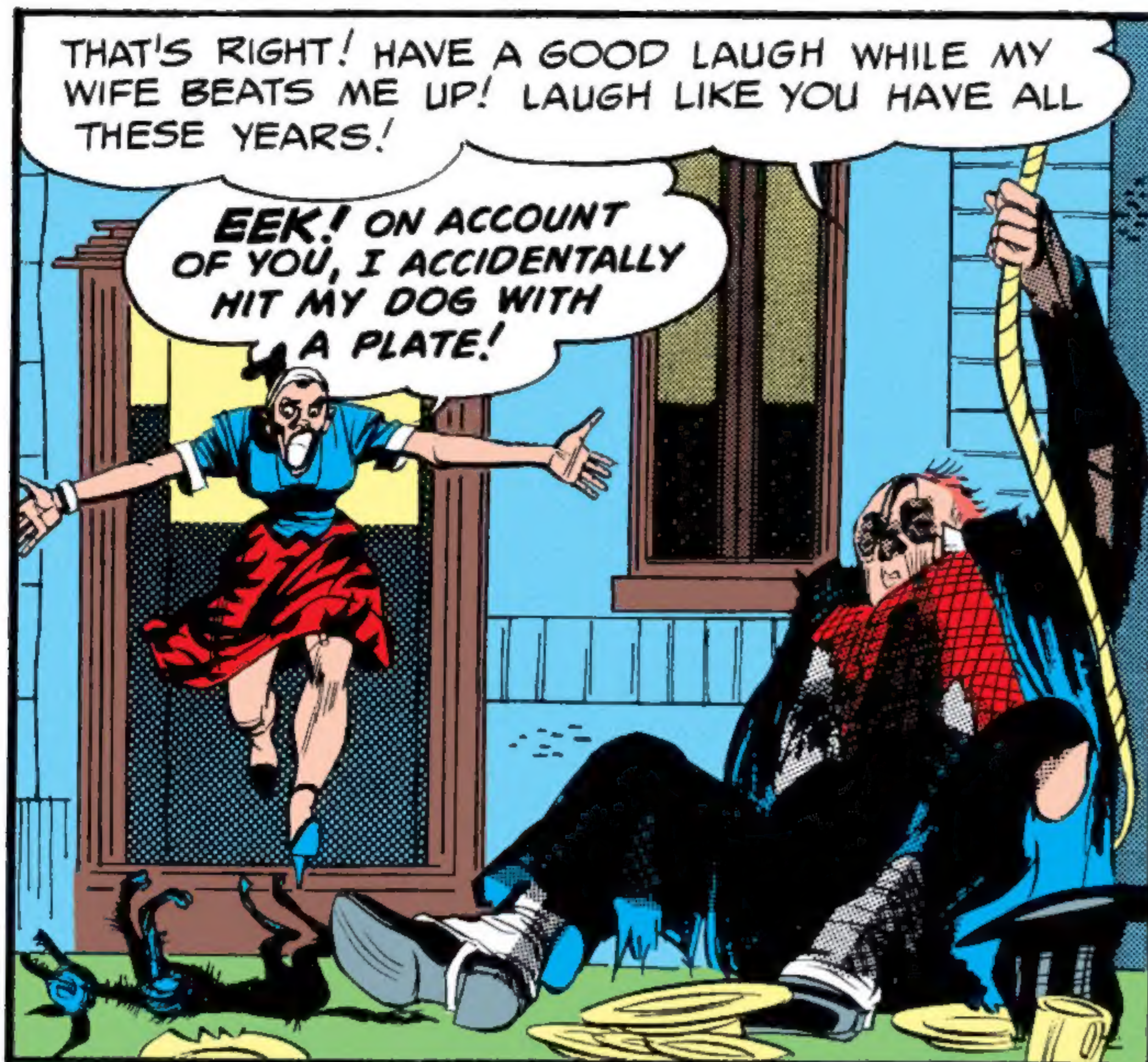
NEWSPAPER CARTOON DEPT.: YOU KNOW... EVERY DAY, PEOPLE LAUGH THEIR HEADS OFF AT THE MOST SERIOUS THINGS! THAT IS, PLENTY THINGS WE THINK ARE FUNNY... IF WE TAKE A SECOND LOOK... THESE THINGS ARE VERY SERIOUS!... SOMETIMES EVEN DISASTROUS!... FOR INSTANCE... TAKE THAT COMIC COUPLE... JIGGIE AND MAGGS IN ...

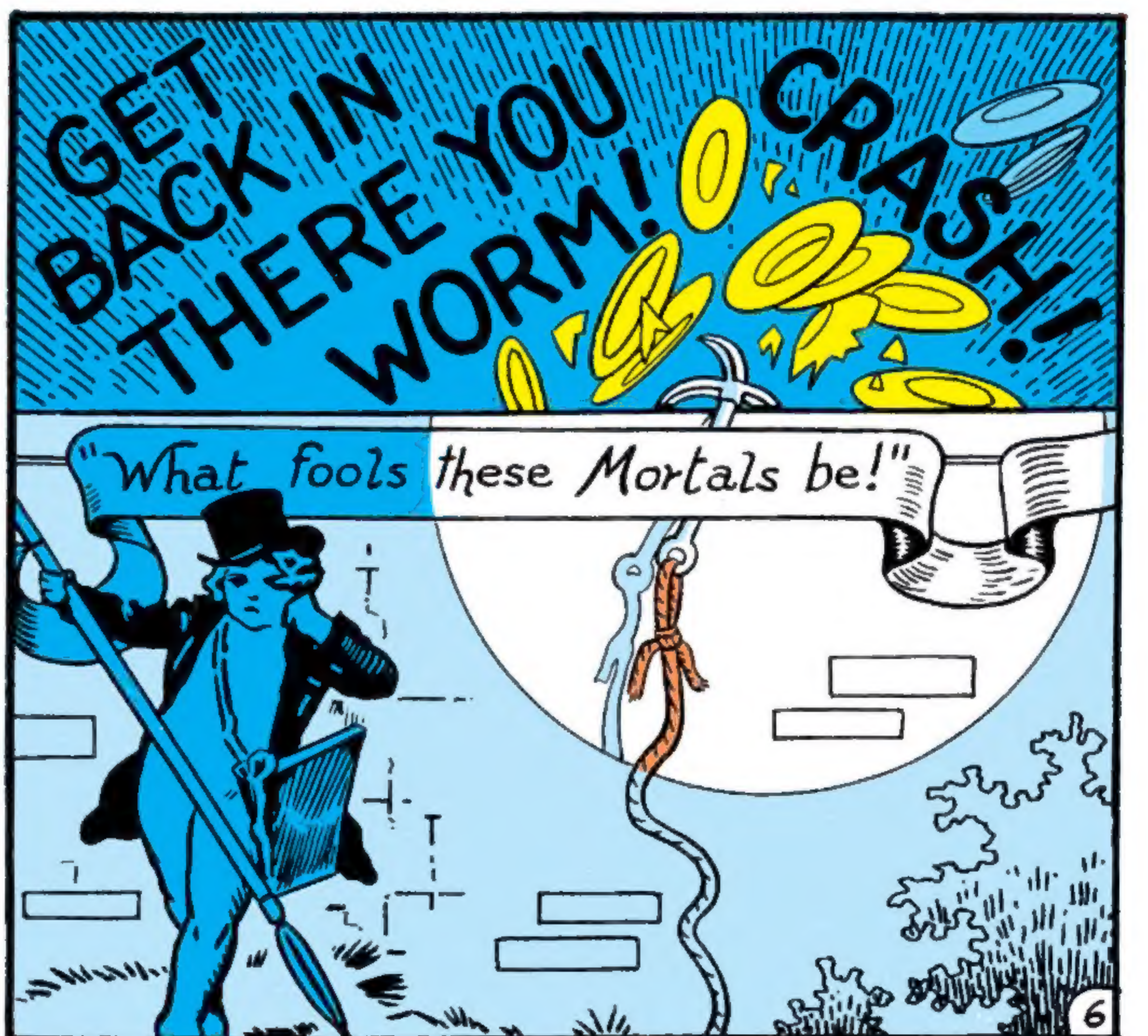
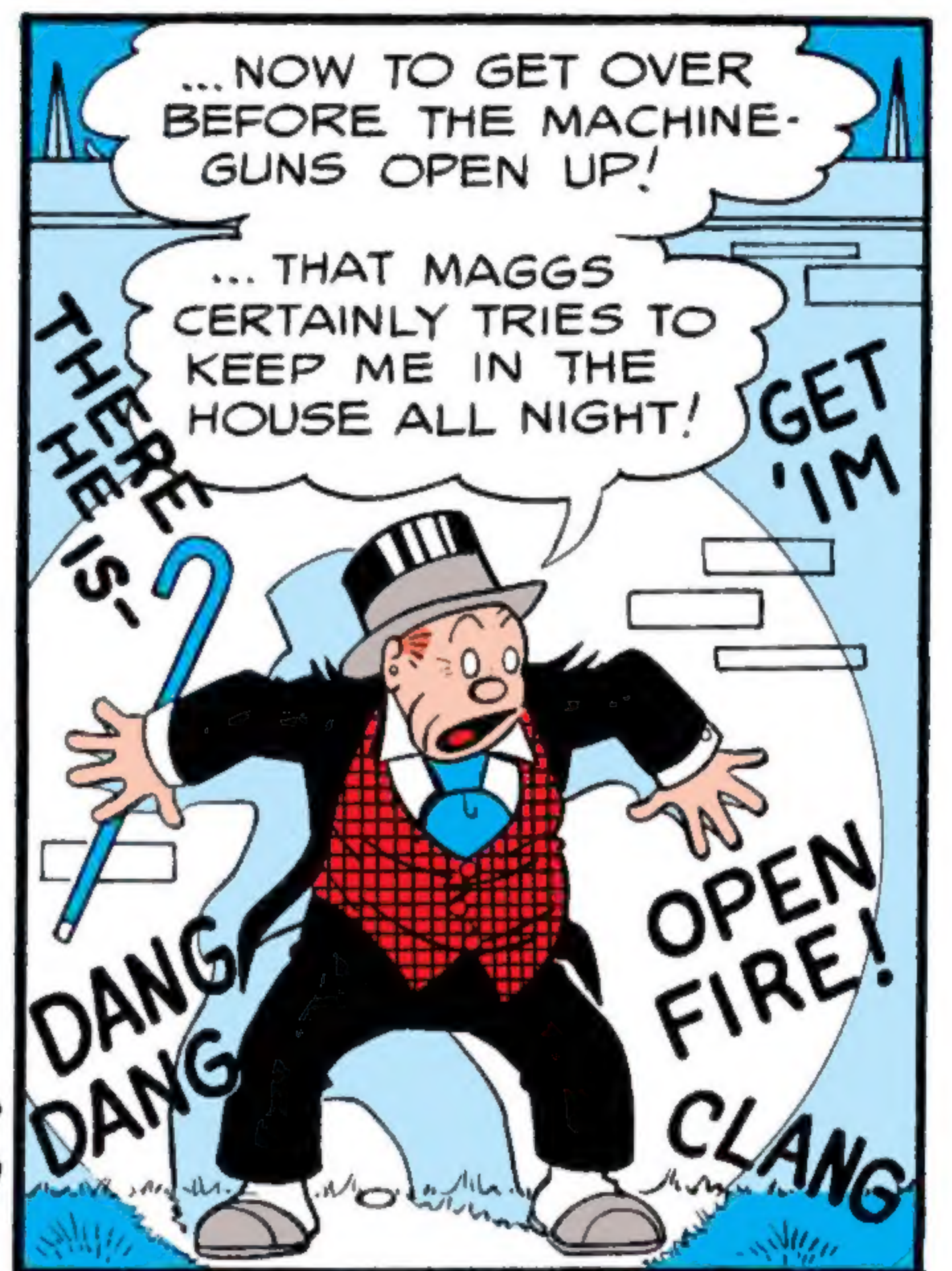
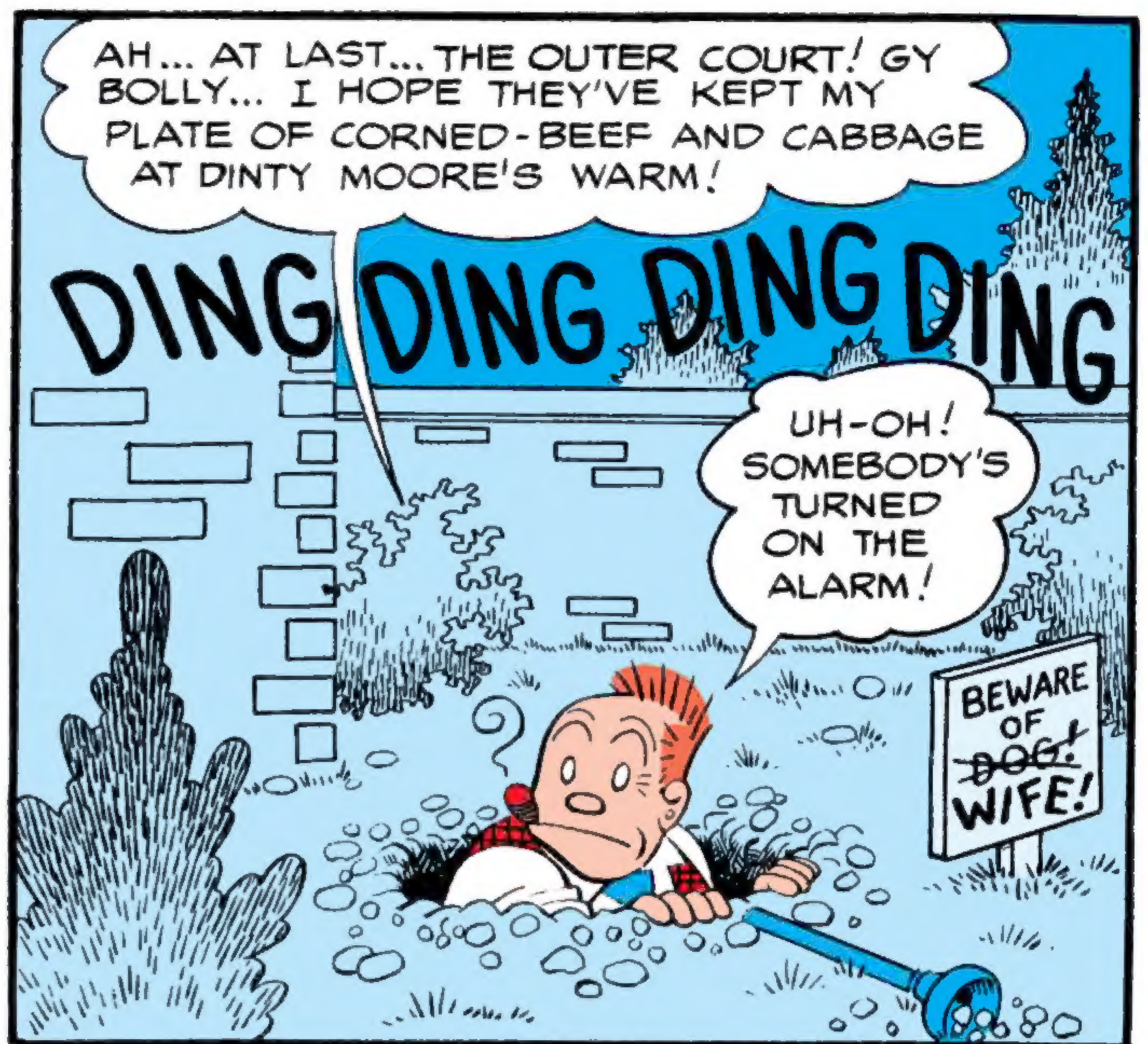
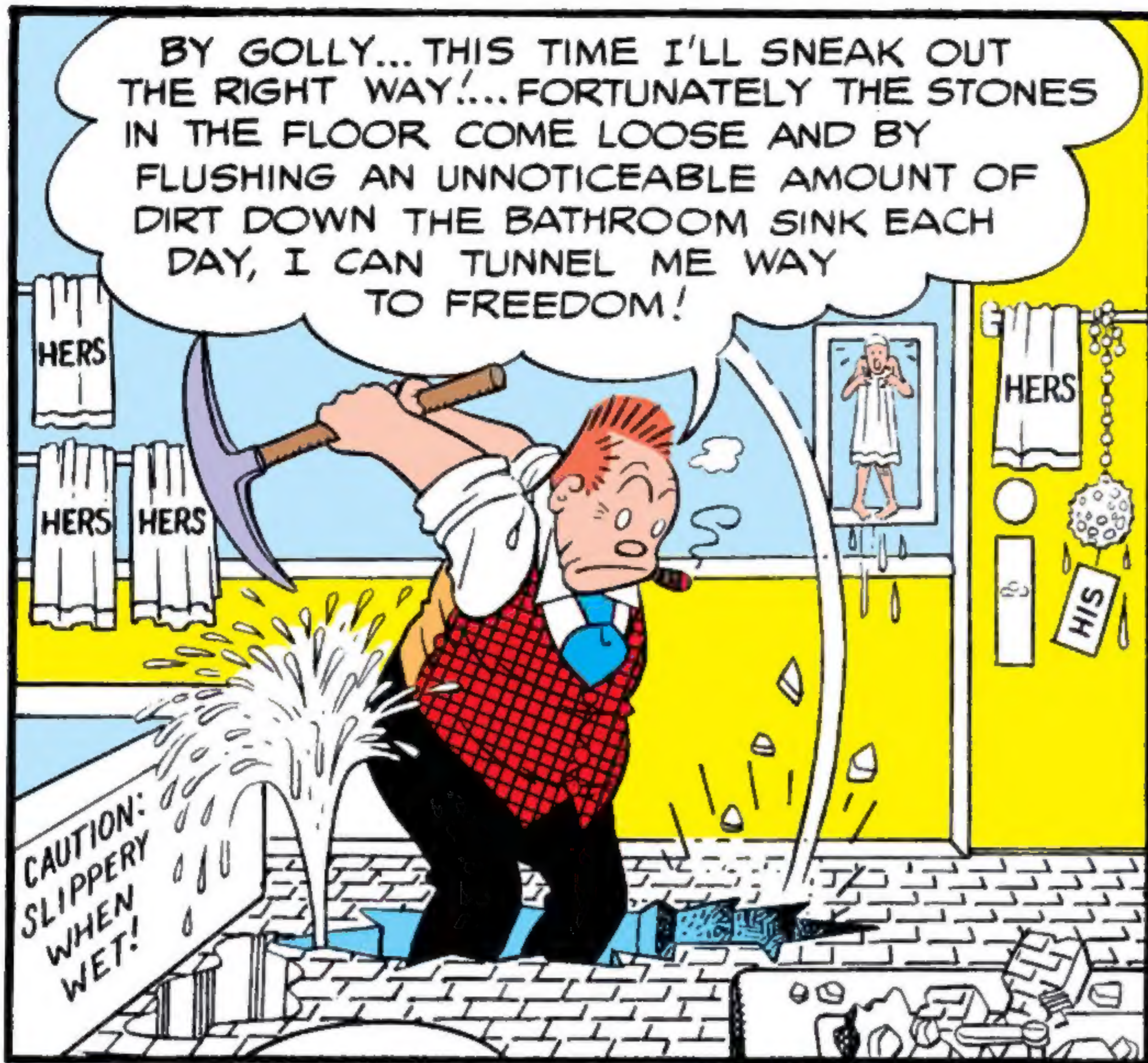


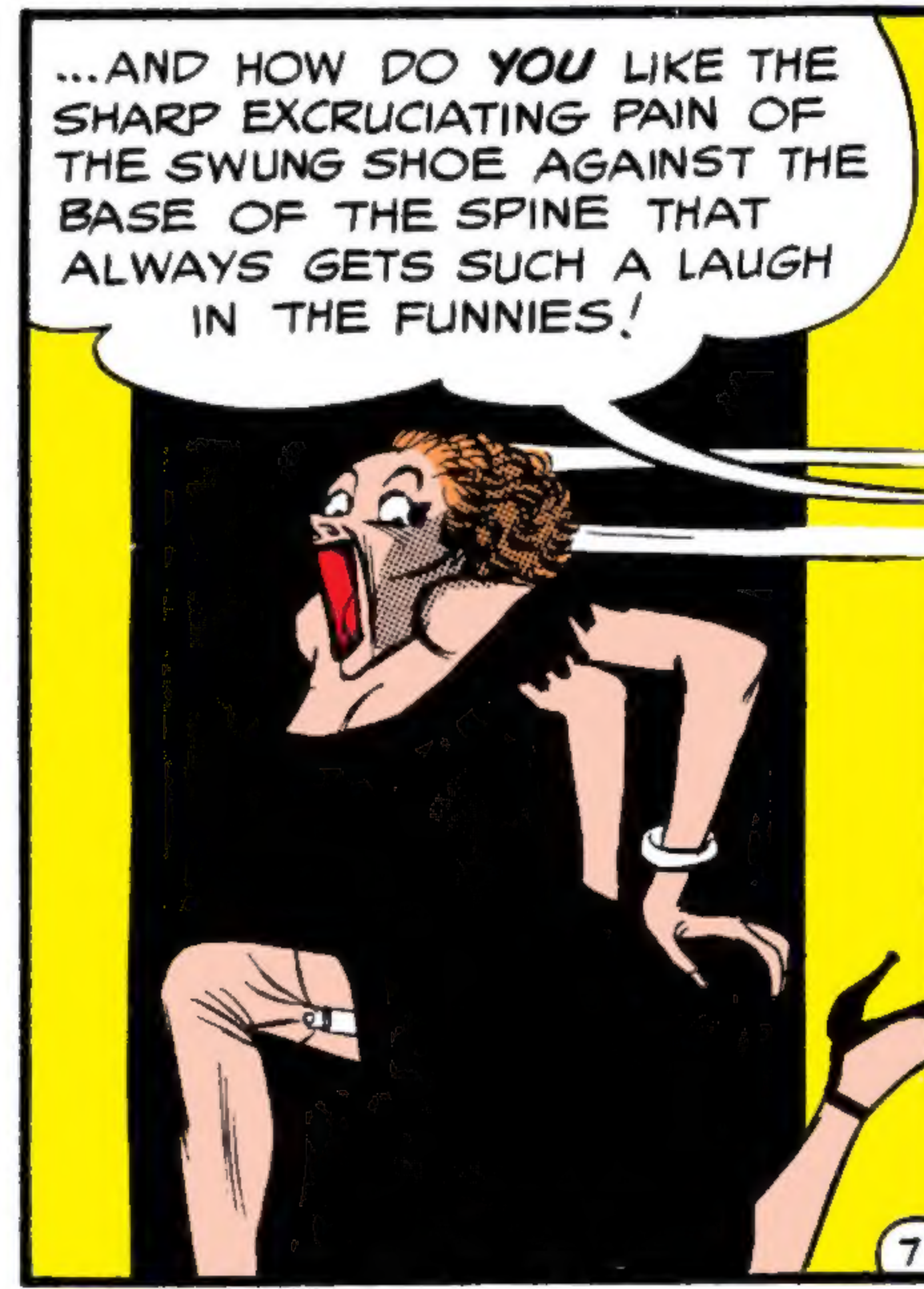
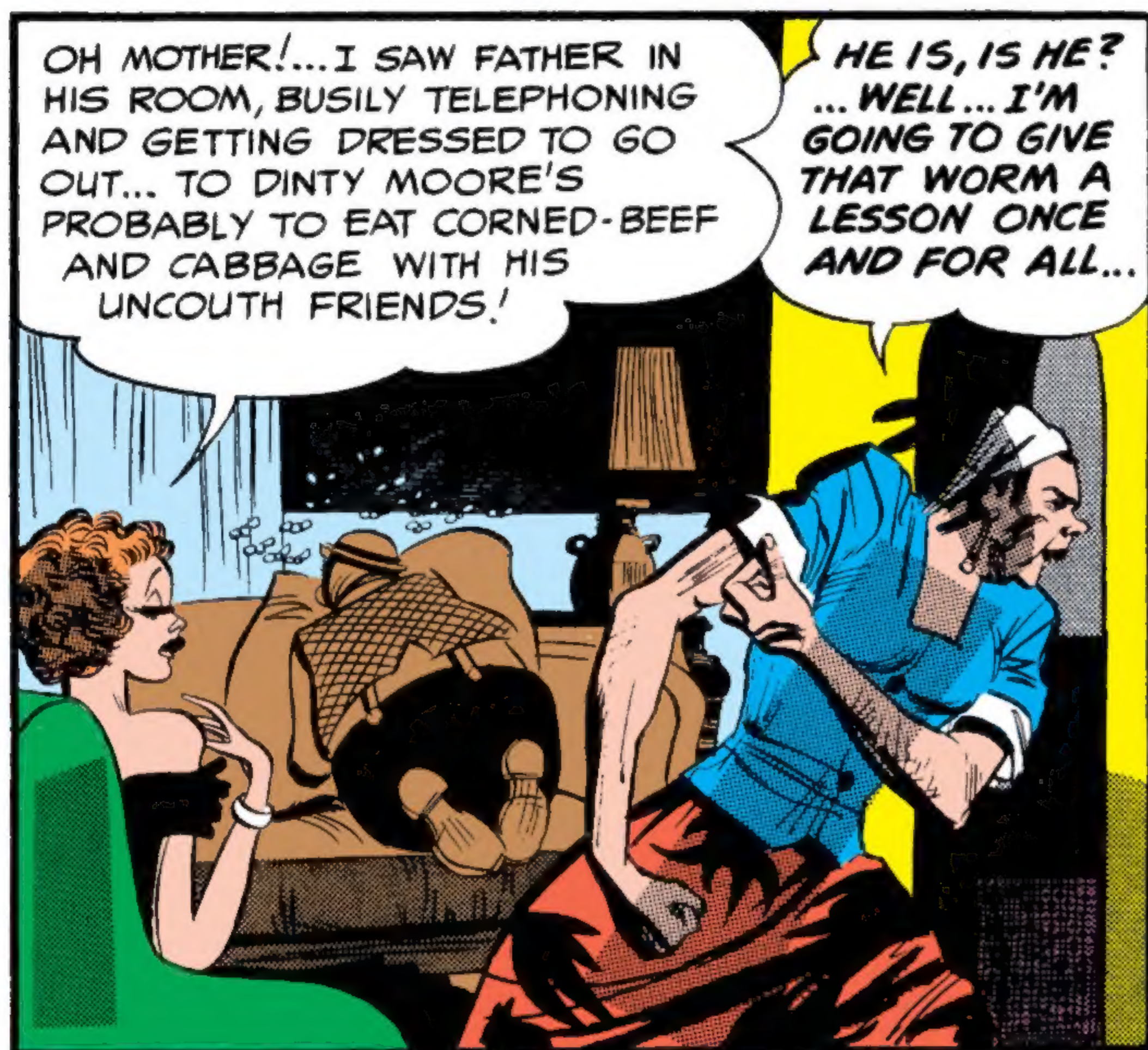
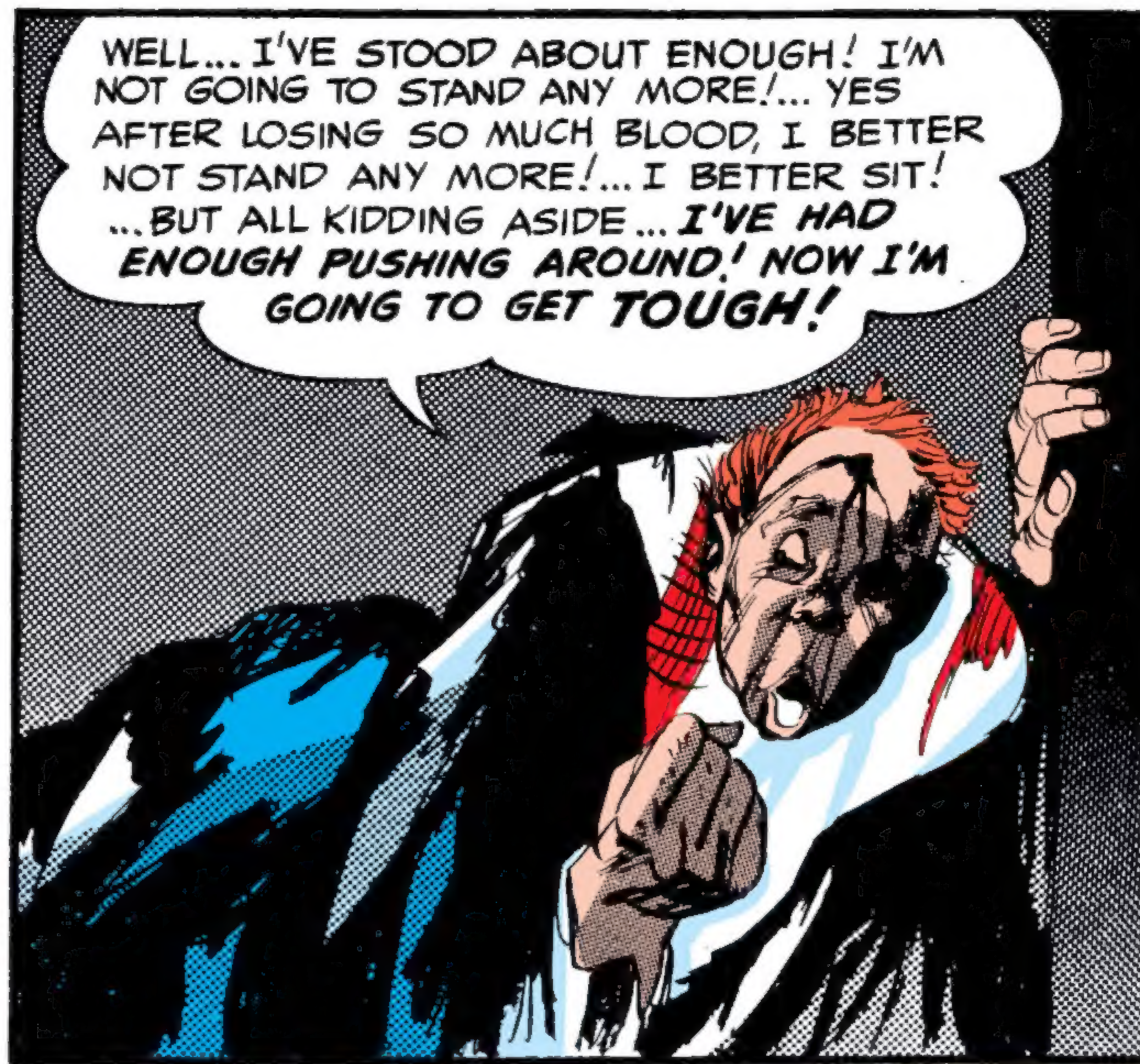
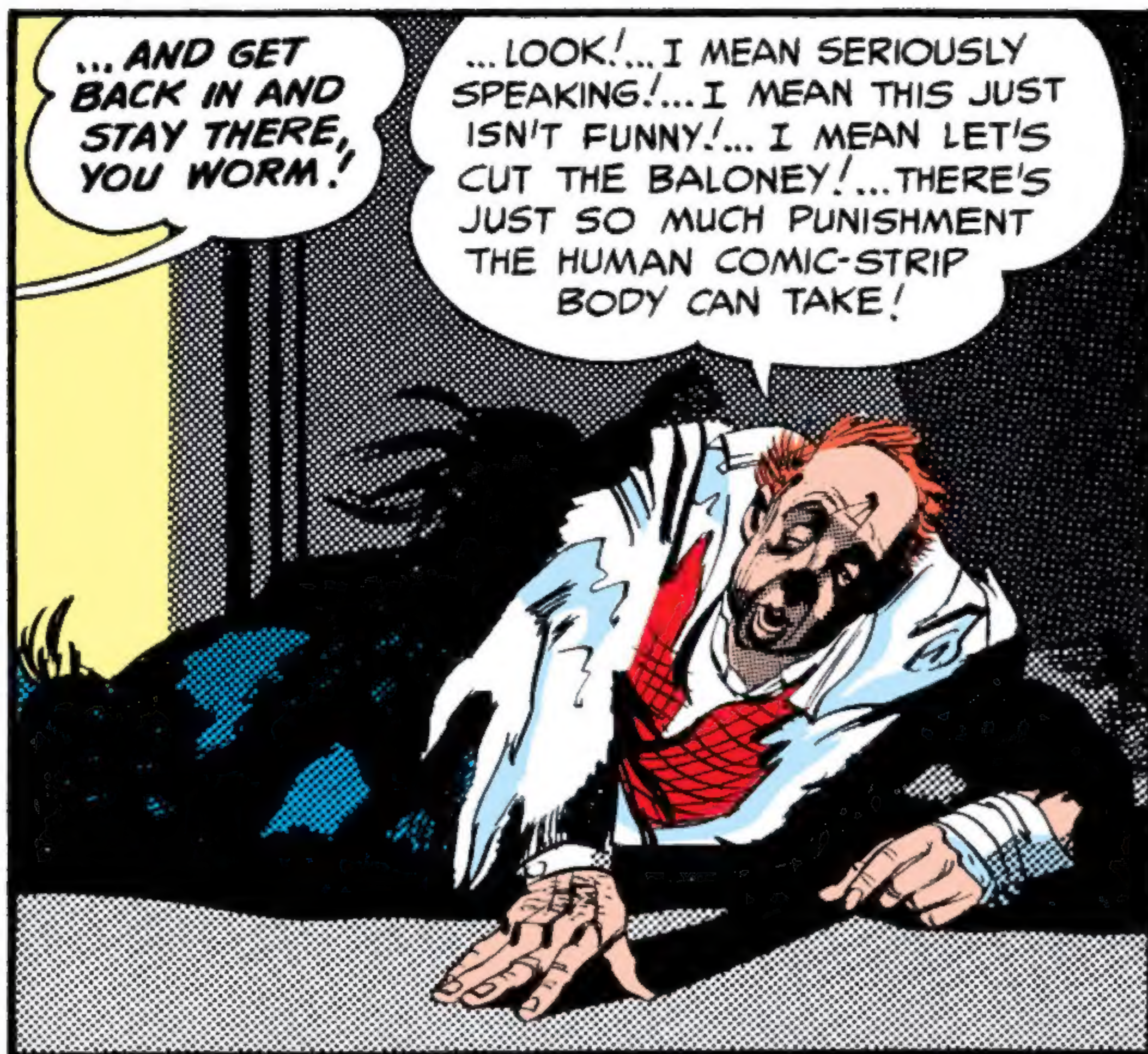












TELEVISION DEPT.: HERE WE HAVE A SCENE FROM A TELEVISION SHOW THAT BEGAN IN APRIL AND THAT BY NOW EVERY MAN, WOMAN AND CHILD IN THE U.S.A. SHOULD BE FAMILIAR WITH! ALTHOUGH THIS SHOW WAS ORIGINALLY PROGRAMMED FOR TWO WEEKS... AT THIS WRITING, IT SEEMS TO HAVE BECOME A REGULAR SUSTAINING BROADCAST THAT MAY GO ON FOREVER!



NOW, YOU KIDDIES AND GROWN-UPS WHO JUST EVEN GLANCED AT IT WERE NO DOUBT STRUCK BY THE MONOTONY OF THIS SHOW!... THE LACK OF PLOT... THE REPETITIOUS DIALOGUE... THE DULL, UN-INTERESTING SCENERY WITH THE SAME CAMERA ANGLES AGAIN AND AGAIN!... WE OF **MAD** RESPECTFULLY SUGGEST THAT THE APPROACH TO THIS SHOW WAS ALL WRONG... AND WITH AN EYE TOWARDS CONSTRUCTIVE CRITICISM, WE OFFER ON THE FOLLOWING PAGES, OUR SUGGESTIONS AS TO HOW IT SHOULD HAVE BEEN DONE.

HERE'S THE WAY IT SHOULD HAVE STARTED! FIRST OF ALL... WHO WANTS TO LISTEN TO A PROGRAM CALLED "THE SENATE SUBCOMMITTEE HEARINGS ON THE ARMY INVESTIGATIONS"?... THE WHOLE THING NEEDED A SNAPPIER TITLE... LIKE FOR INSTANCE, "TRUTH OR CONSEQUENCES"... "BREAK THE RANK"... OR...

WHAT'S MY SHINE!

WELCOME, ESTEEMED LADIES AND GENTLEMEN!
... MAH NAME IS JAY RENKINS, YOAH MODERATOR!

... AH AM ASKING YEW TO JOIN ME IN ANOTHER SESSION OF "WHAT'S MAH SHINE"... THE FRIENDLY QUIZ GAME!

INSTANT COFFEE



AT EACH SESSION OF "WHAT'S MAH SHINE," WE INVITE ...OR SUBPOENA... A GUEST TO APPEAR BEFORE OUAH PANEL OF EXPERTS!

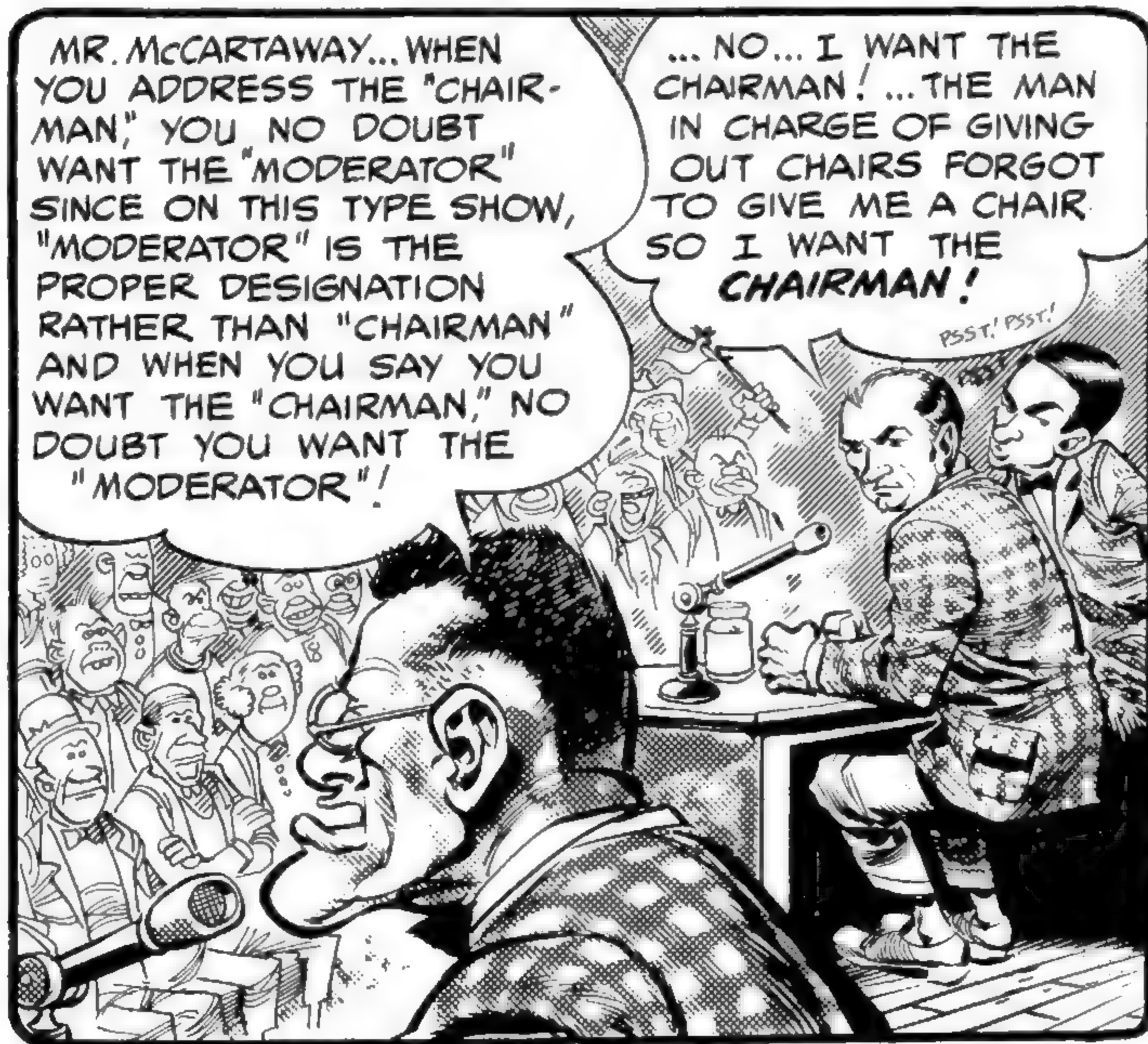
MR. CHAIR-MAN...

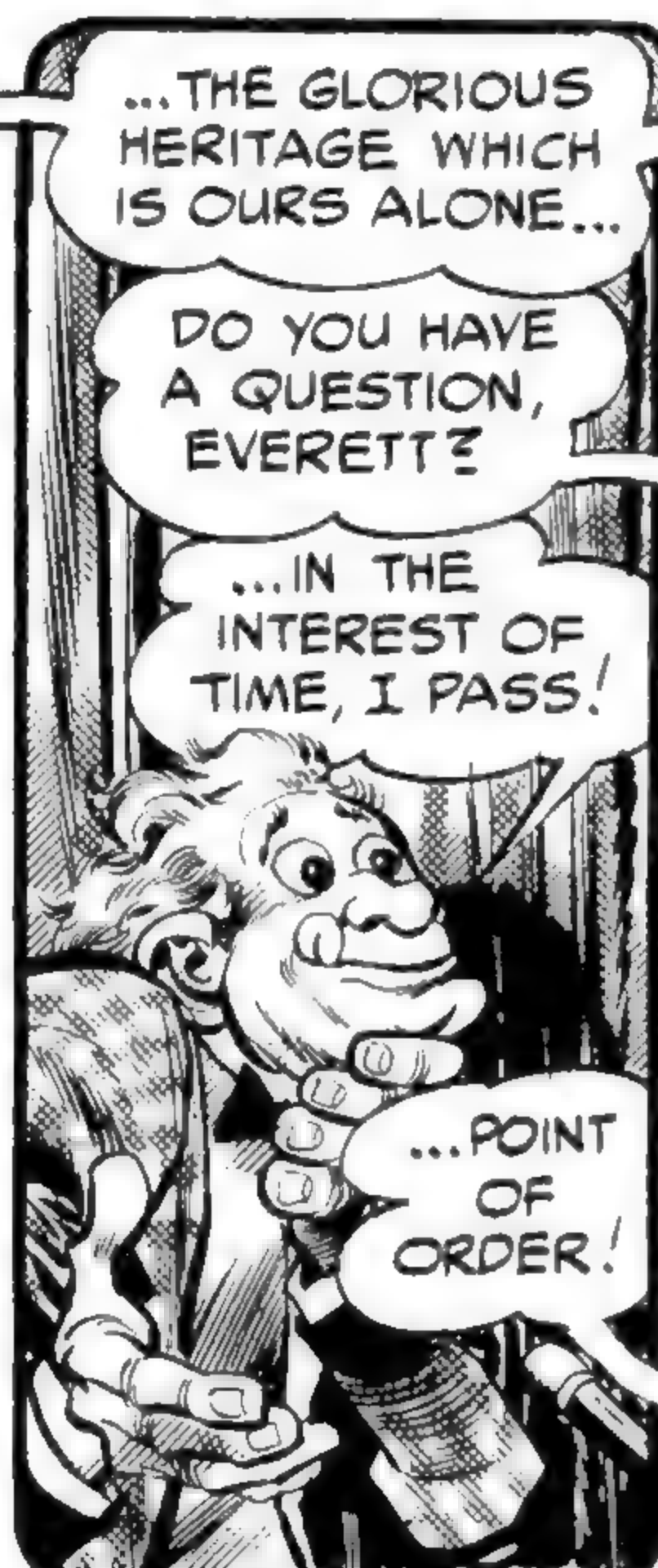
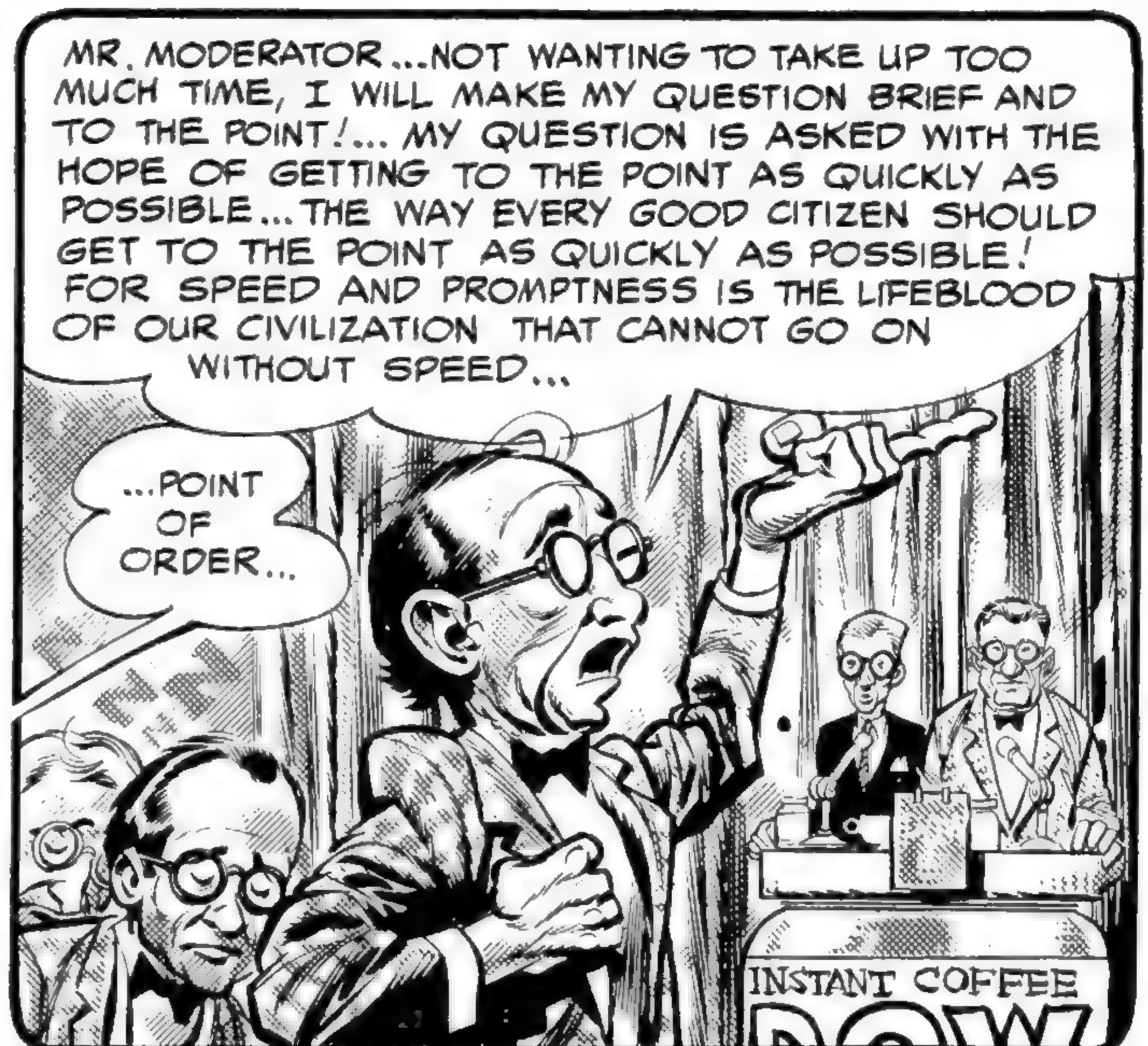
... AHRIGHT!... OUAH PANEL OF EXPERTS WILL THEN QUESTION OUAH GUEST TO FIND OUT WHAT HE DOES AND WHETHER HE USES UNDUE INFLUENCE DOING IT!

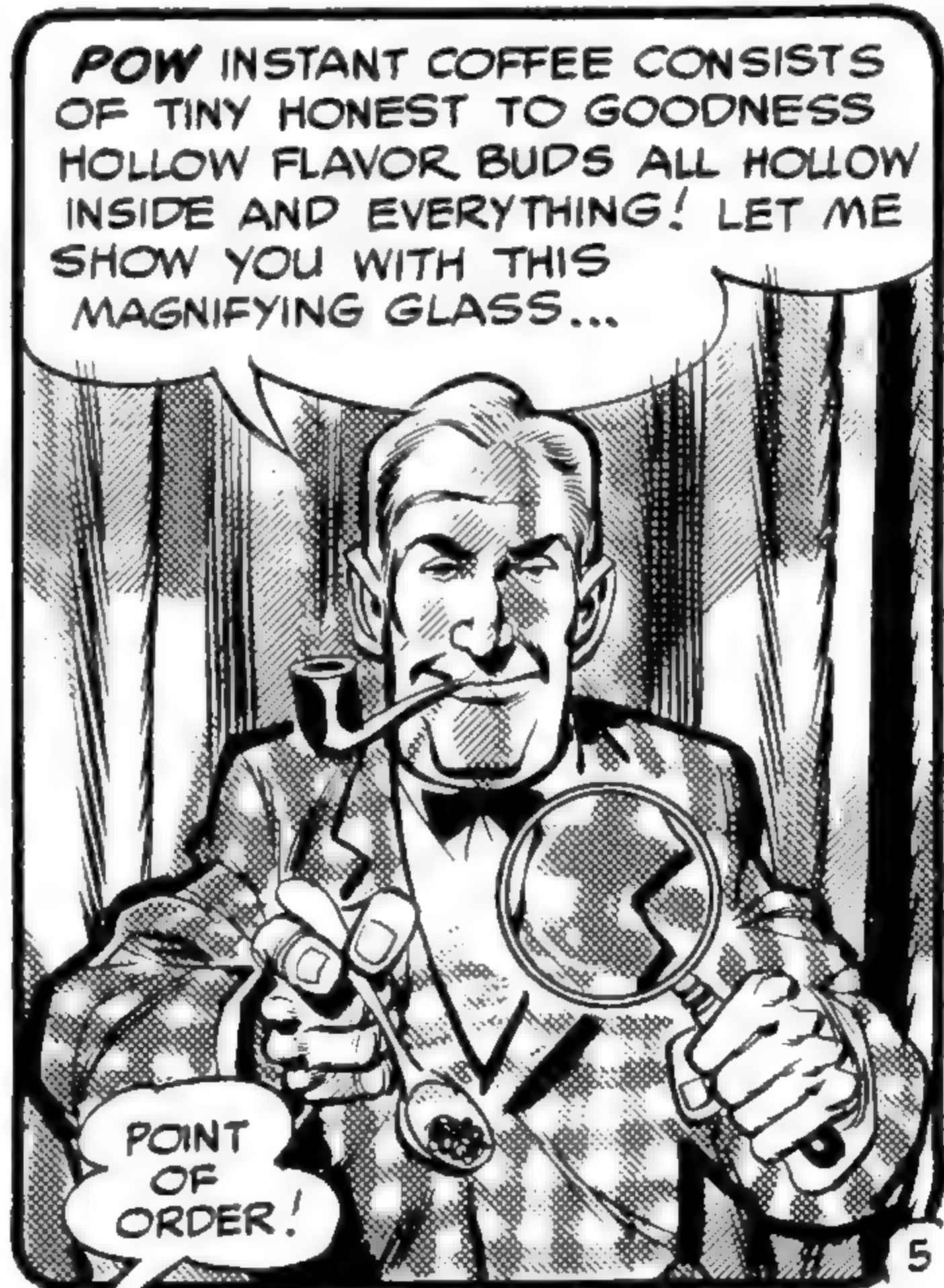
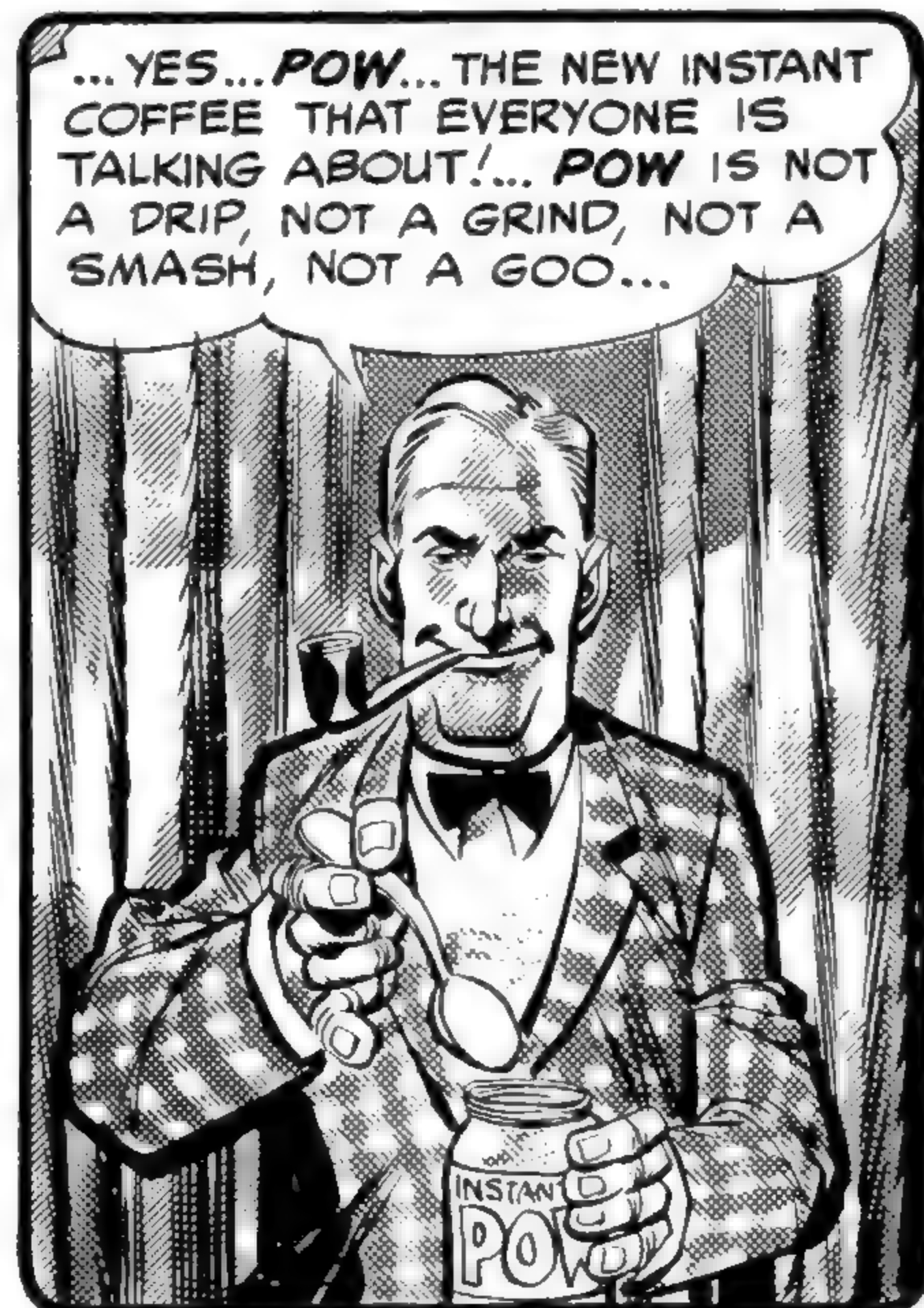
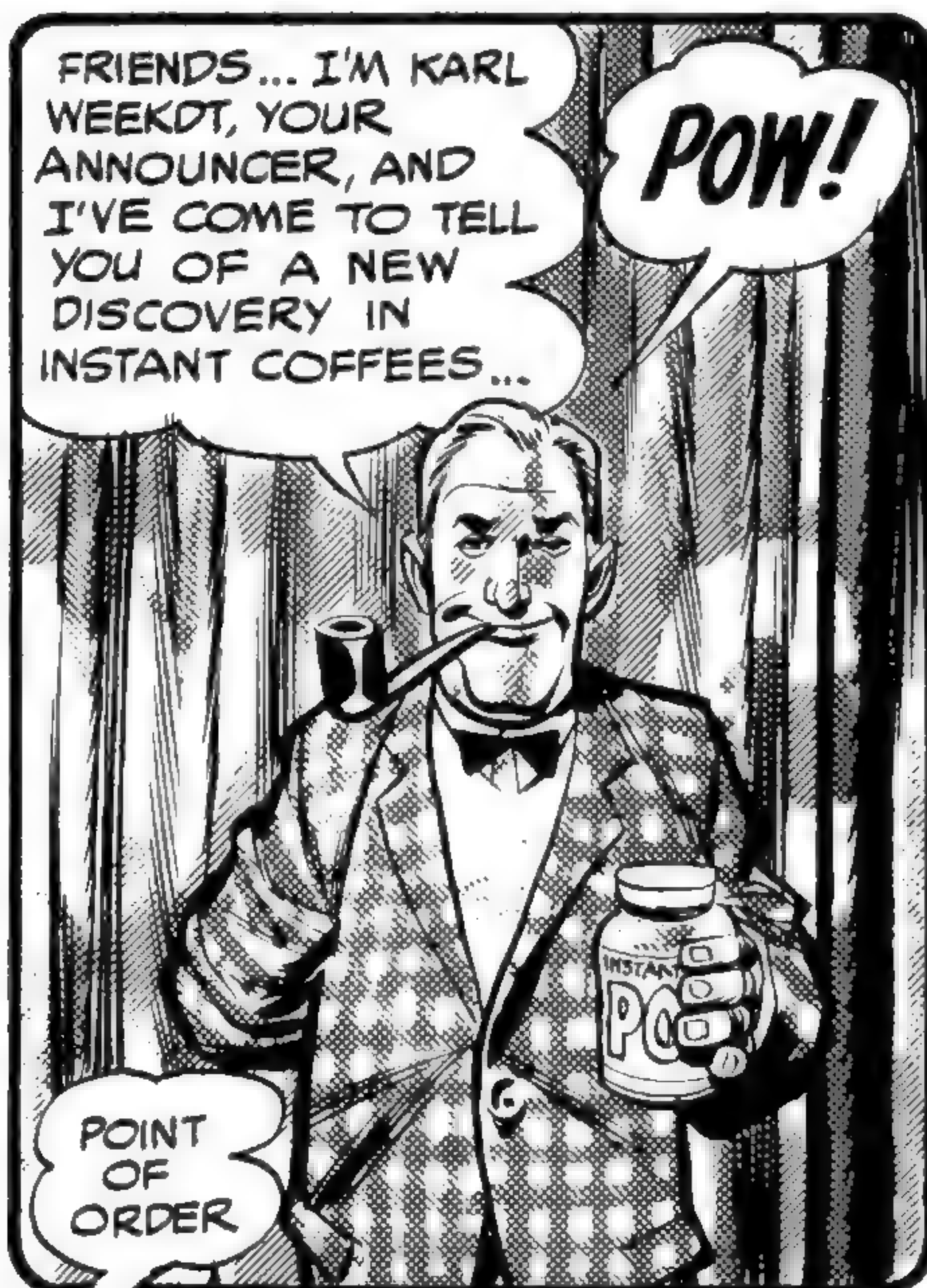
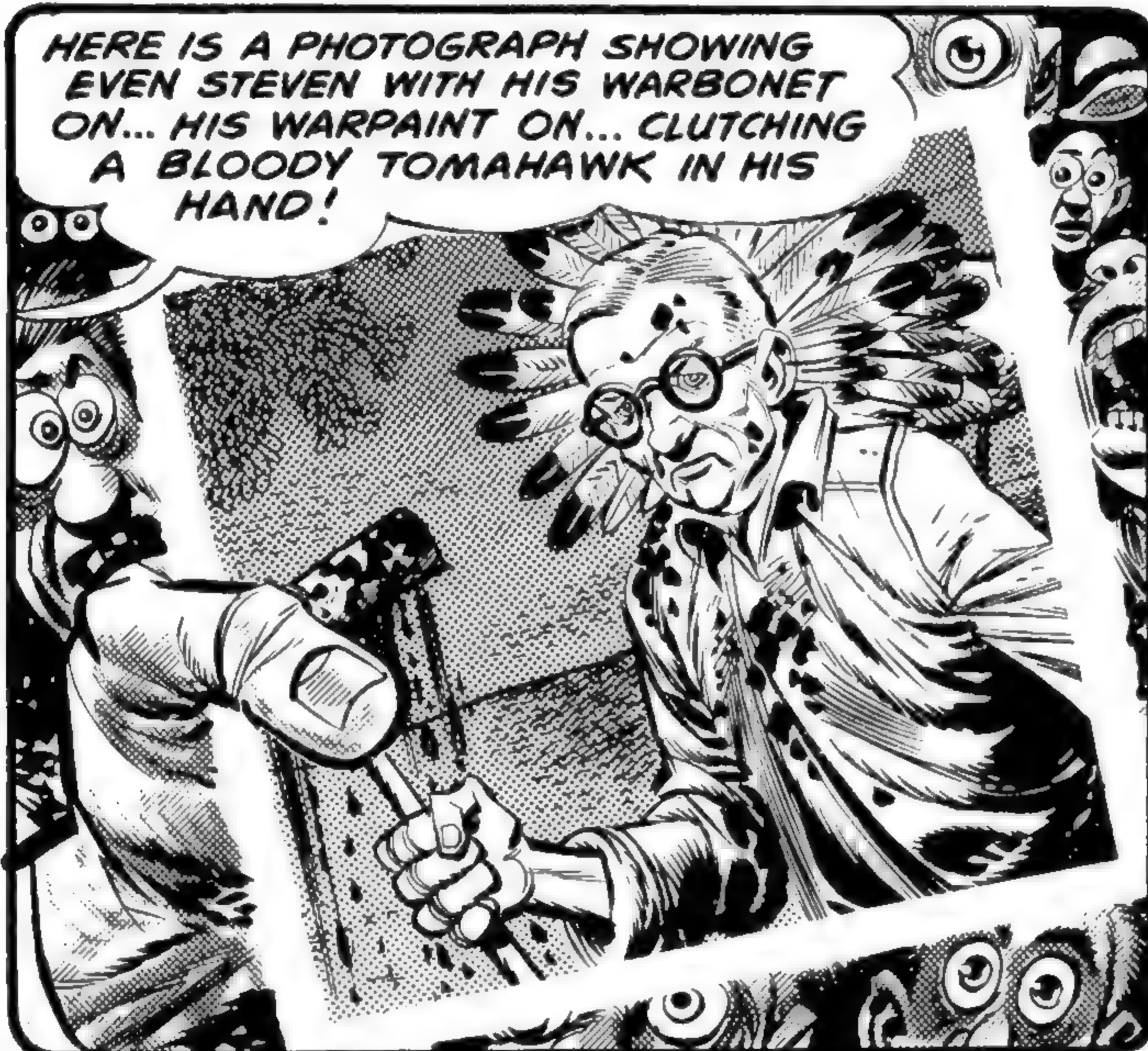
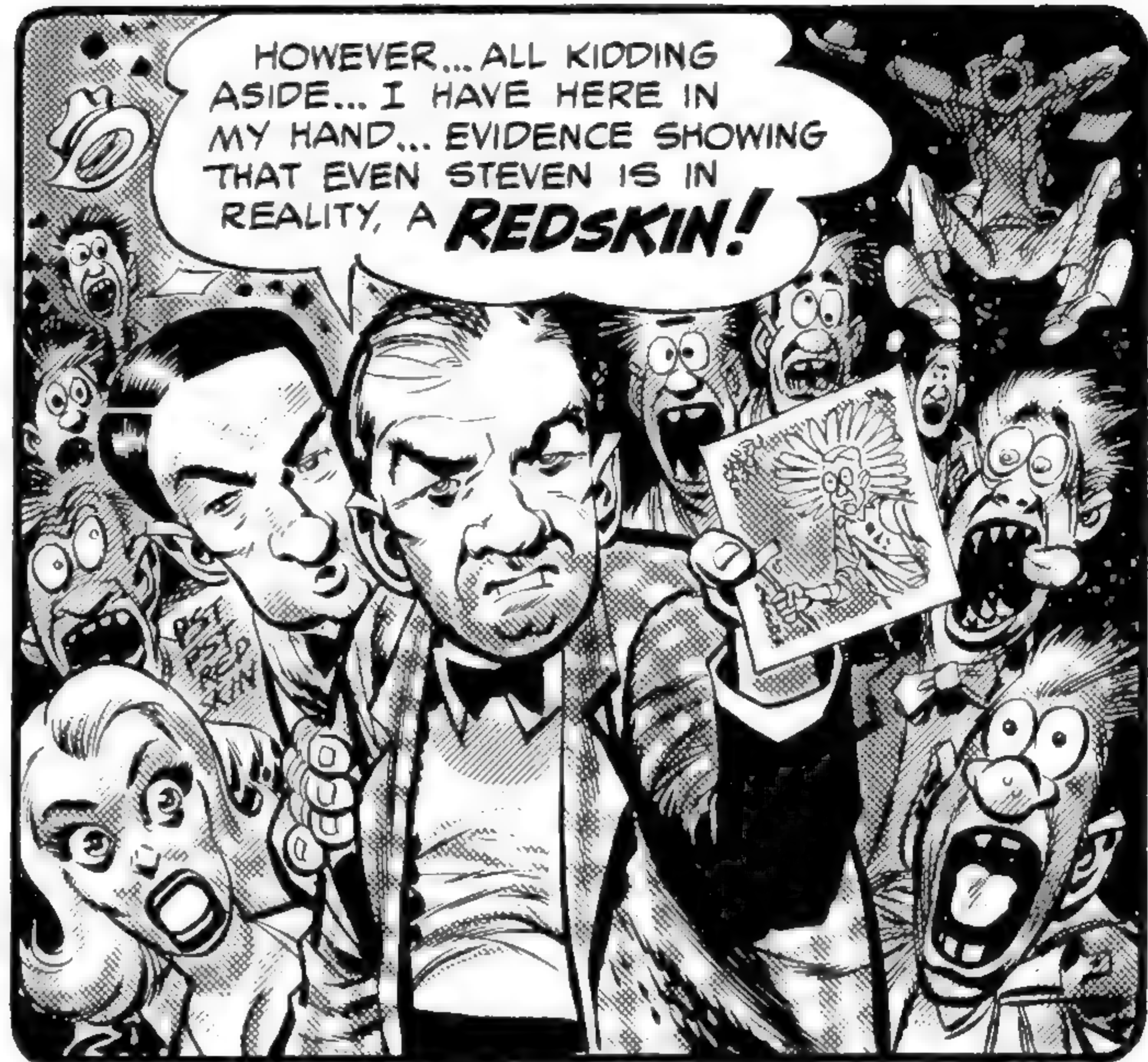
... AHRIGHT!... FOR EVERY "NO" ANSWER RECEIVED... I WILL FLIP A CARD WHICH WILL REPRESENT A HUNDRED TAXPAYERS DOLLARS!

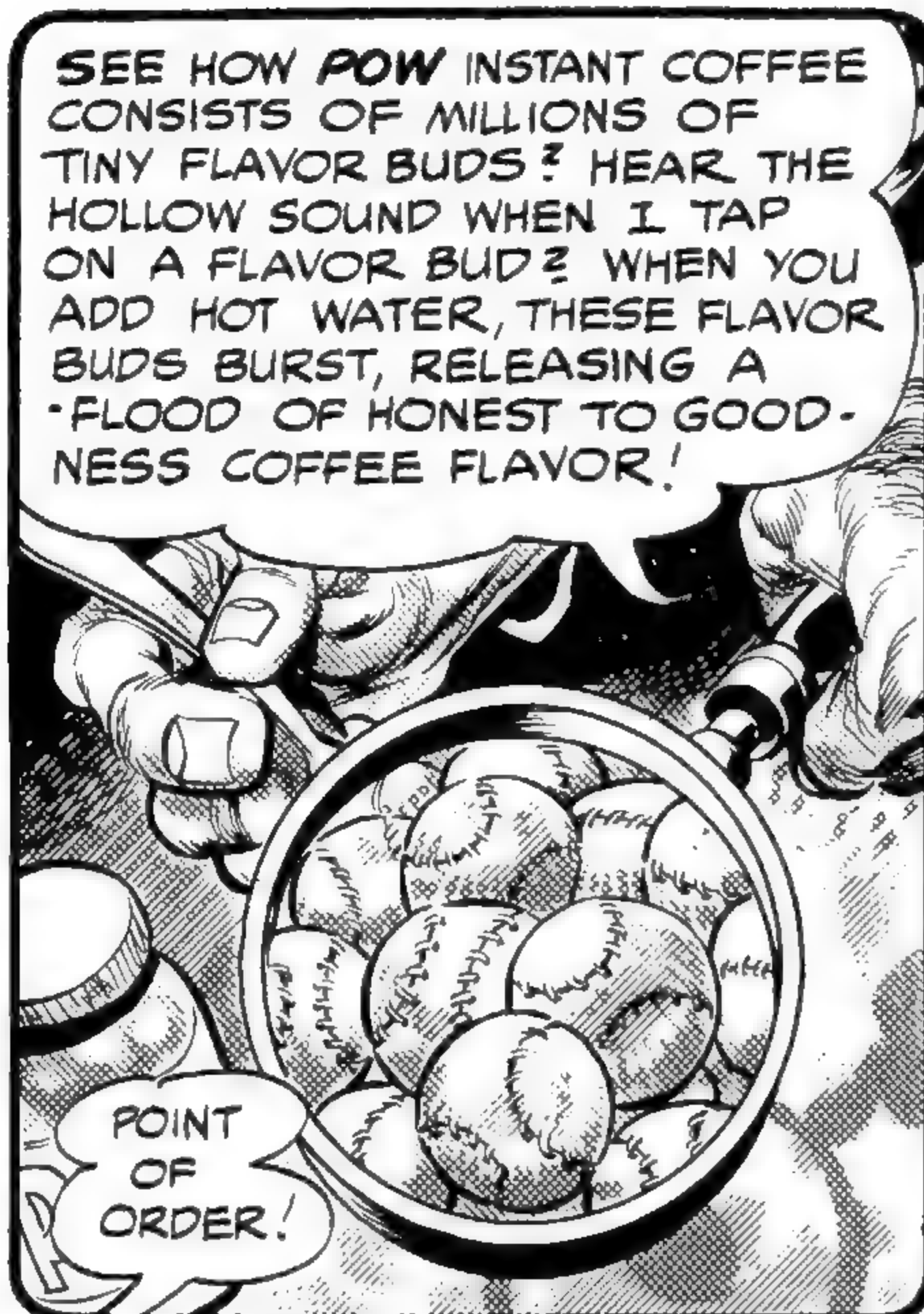
... AHRIGHT! NOW OUAH PANEL OF EXPERTS ARE...

MR. CHAIR-MAN!



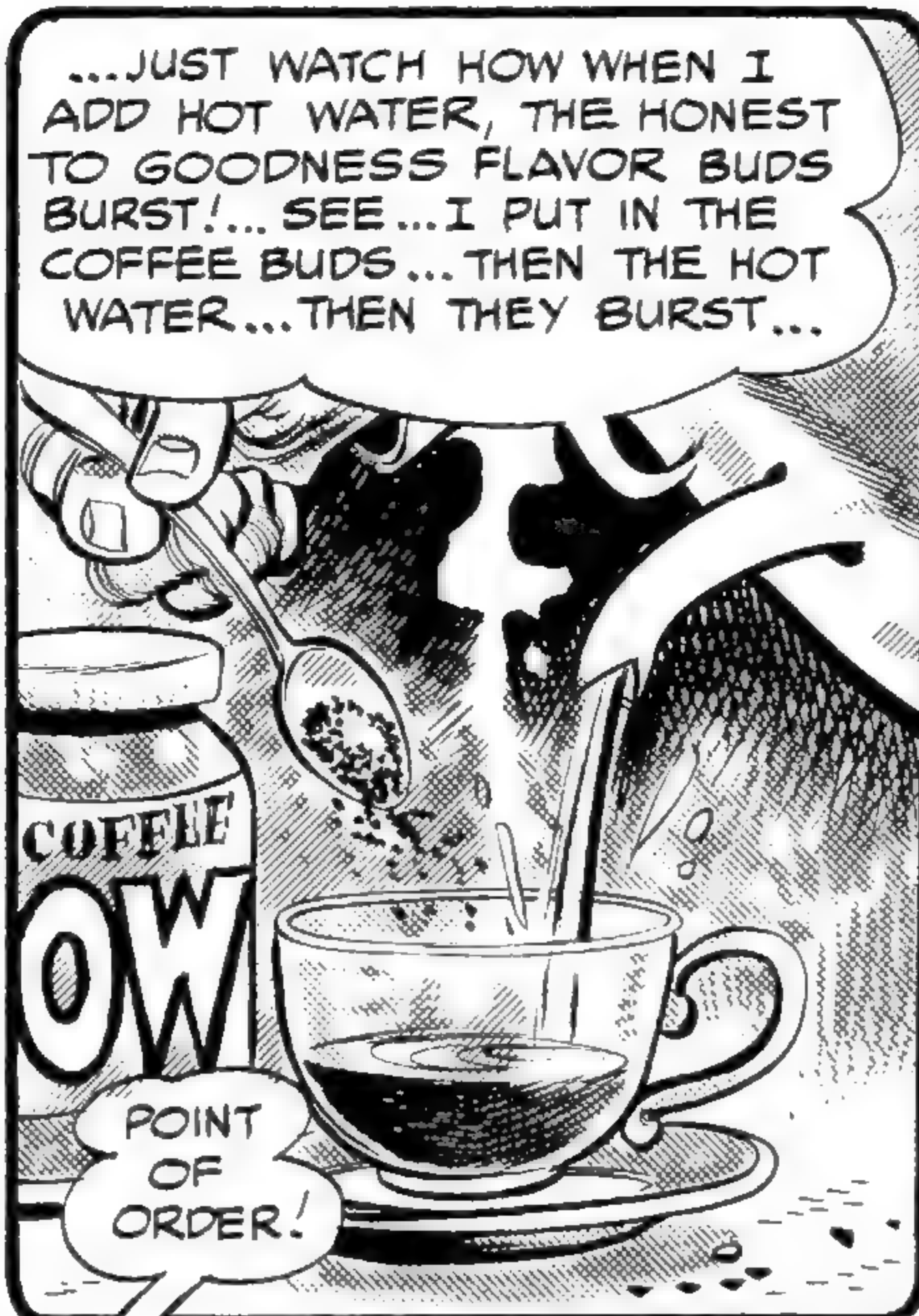






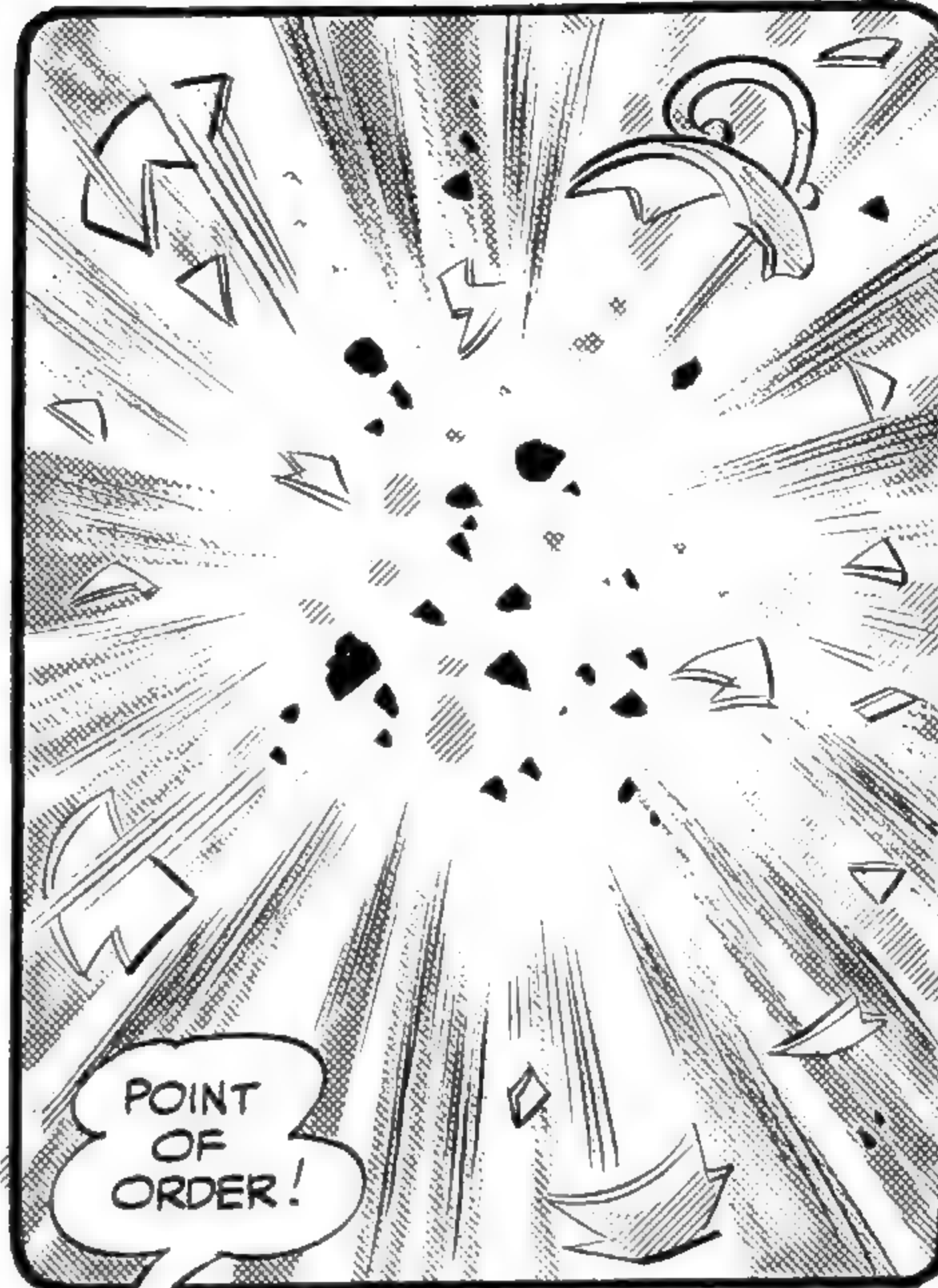
SEE HOW **POW** INSTANT COFFEE CONSISTS OF MILLIONS OF TINY FLAVOR BUDS? HEAR THE HOLLOW SOUND WHEN I TAP ON A FLAVOR BUD? WHEN YOU ADD HOT WATER, THESE FLAVOR BUDS BURST, RELEASING A FLOOD OF HONEST TO GOODNESS COFFEE FLAVOR!

POINT OF ORDER!

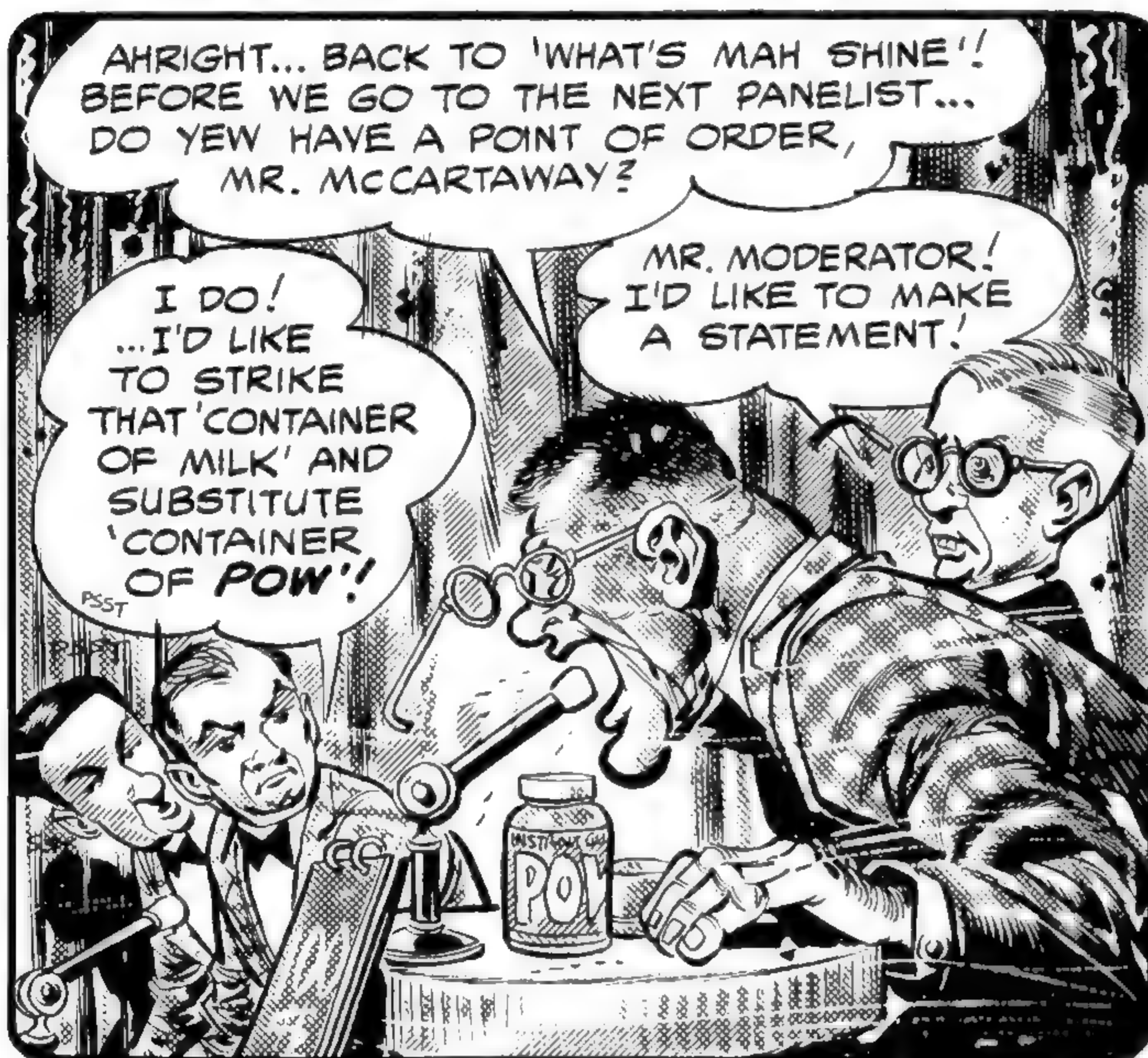


...JUST WATCH HOW WHEN I ADD HOT WATER, THE HONEST TO GOODNESS FLAVOR BUDS BURST!... SEE...I PUT IN THE COFFEE BUDS...THEN THE HOT WATER...THEN THEY BURST...

POINT OF ORDER!



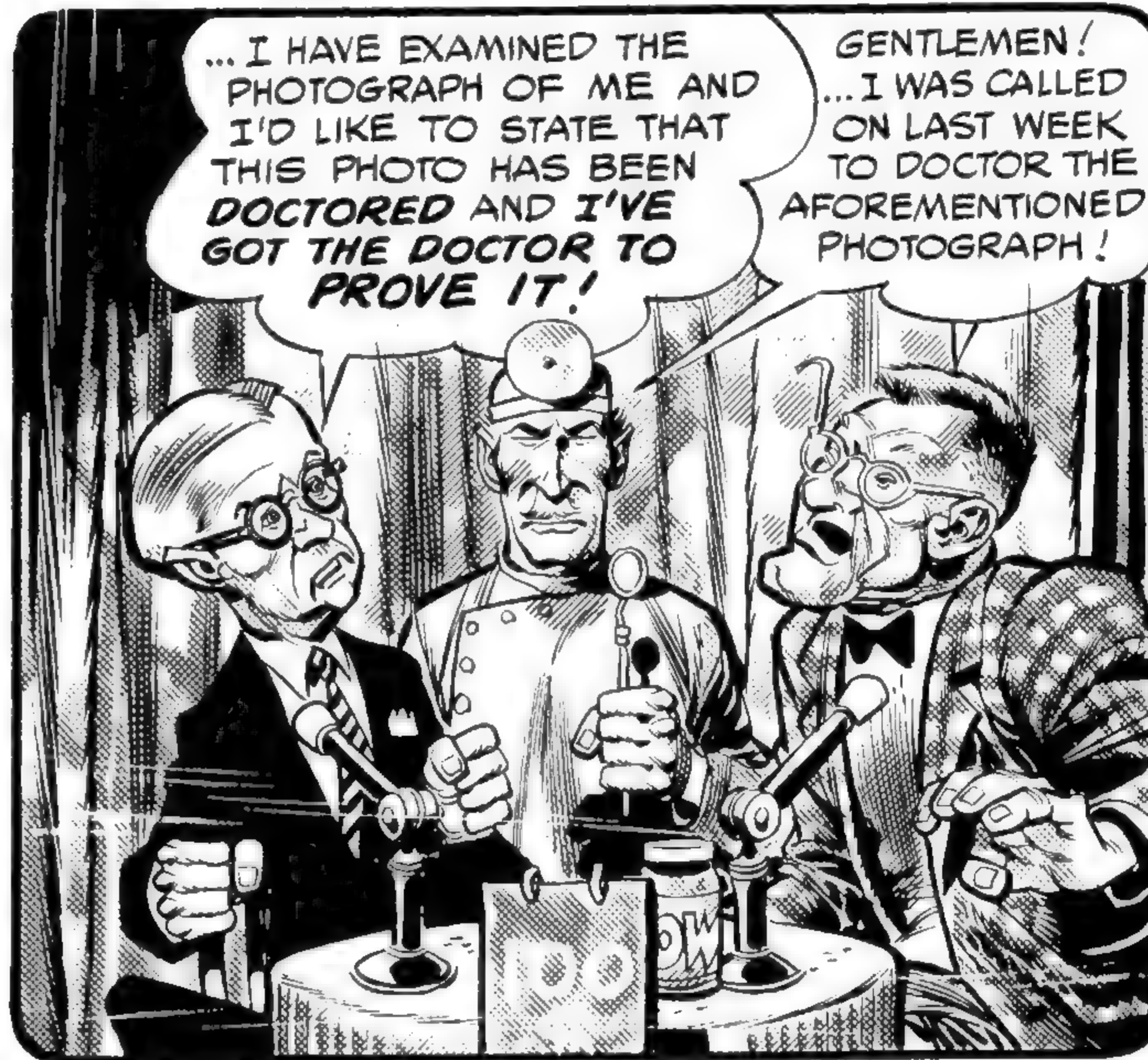
POINT OF ORDER!



AHRIGHT... BACK TO 'WHAT'S MAH SHINE'! BEFORE WE GO TO THE NEXT PANELIST... DO YEW HAVE A POINT OF ORDER, MR. MCCARTAWAY?

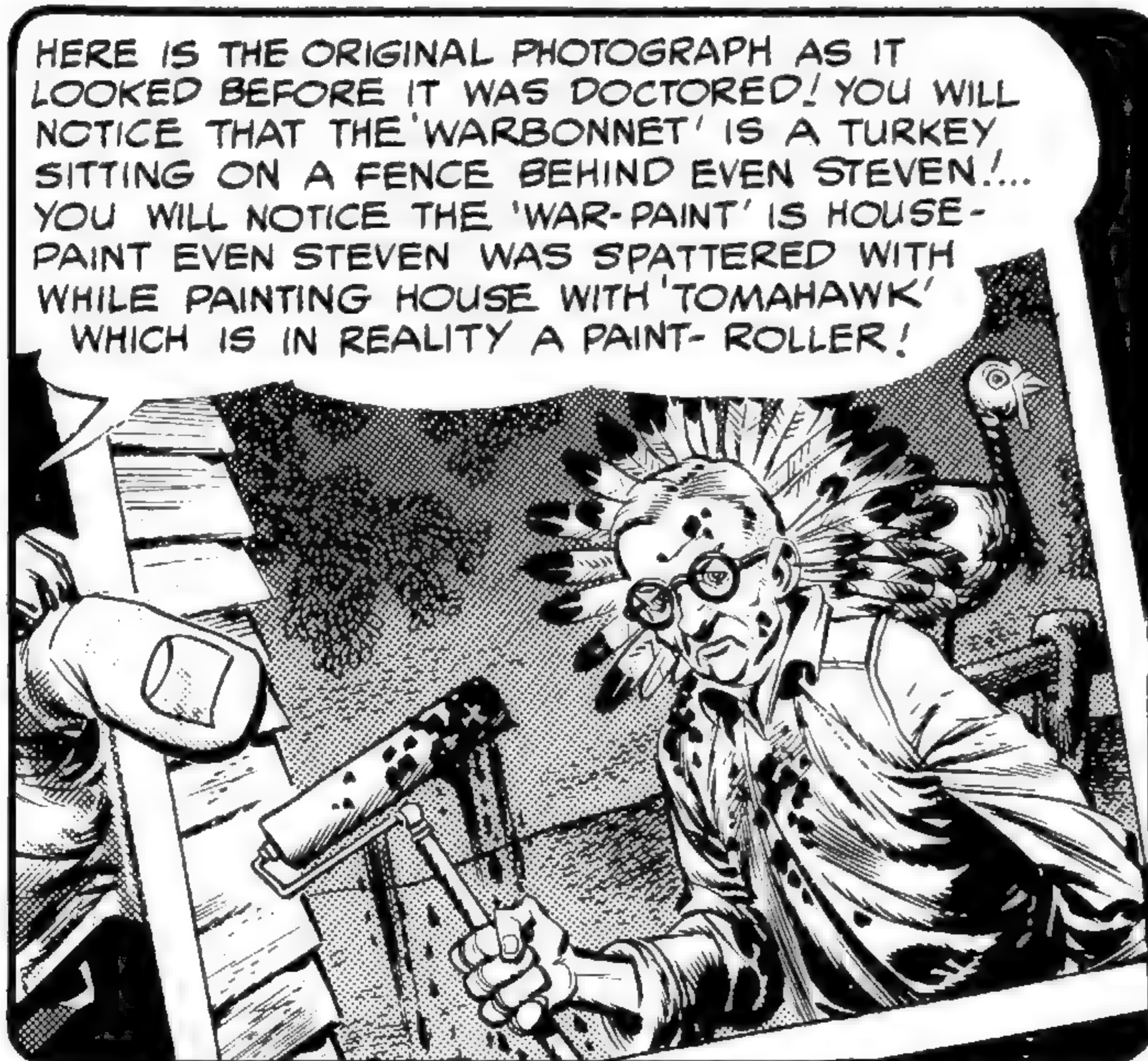
I DO! ...I'D LIKE TO STRIKE THAT 'CONTAINER OF MILK' AND SUBSTITUTE 'CONTAINER OF **POW**'!

MR. MODERATOR! I'D LIKE TO MAKE A STATEMENT!

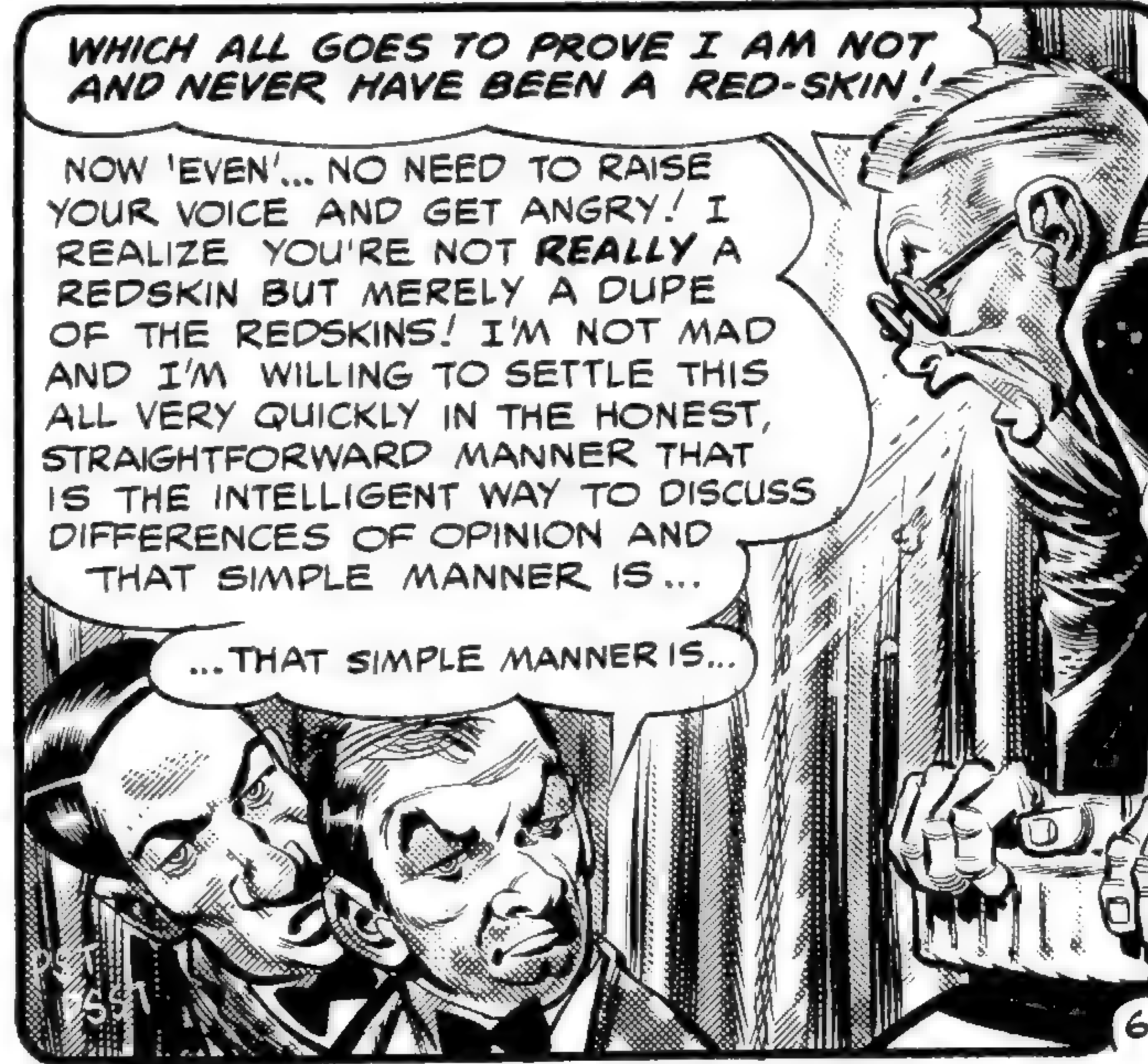


... I HAVE EXAMINED THE PHOTOGRAPH OF ME AND I'D LIKE TO STATE THAT THIS PHOTO HAS BEEN **DOCTORED** AND I'VE GOT THE DOCTOR TO **PROVE IT!**

GENTLEMEN! ...I WAS CALLED ON LAST WEEK TO DOCTOR THE AFOREMENTIONED PHOTOGRAPH!



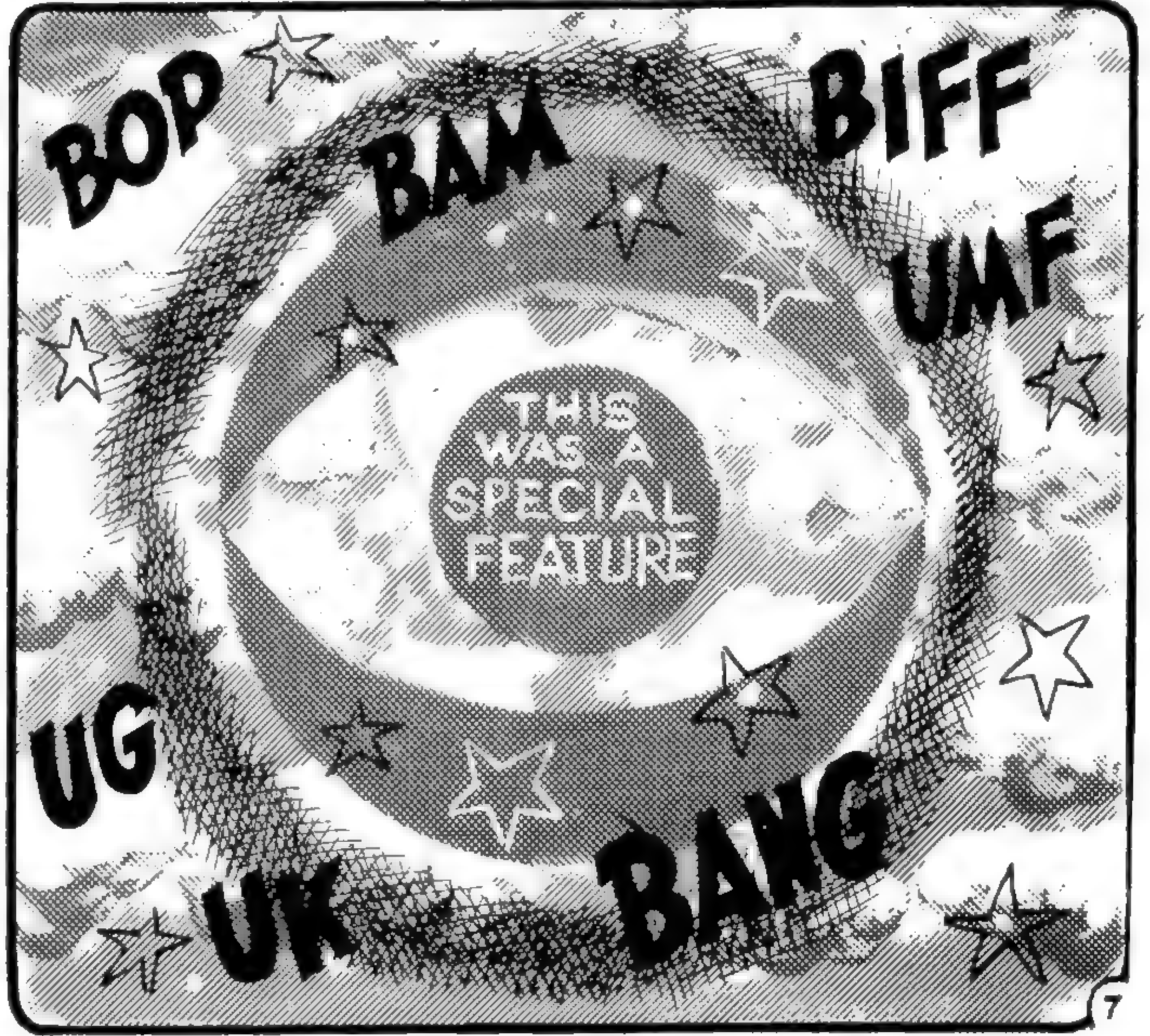
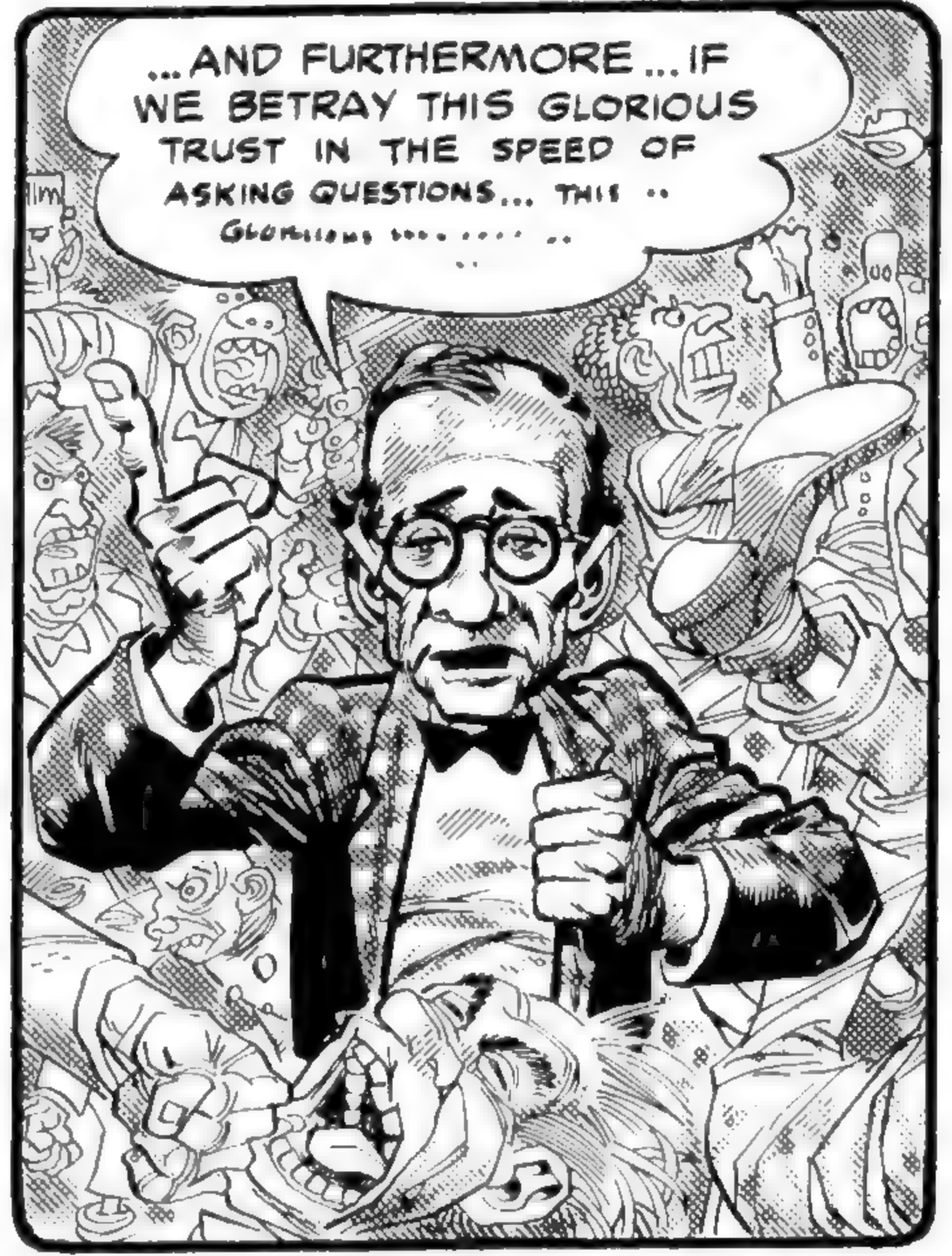
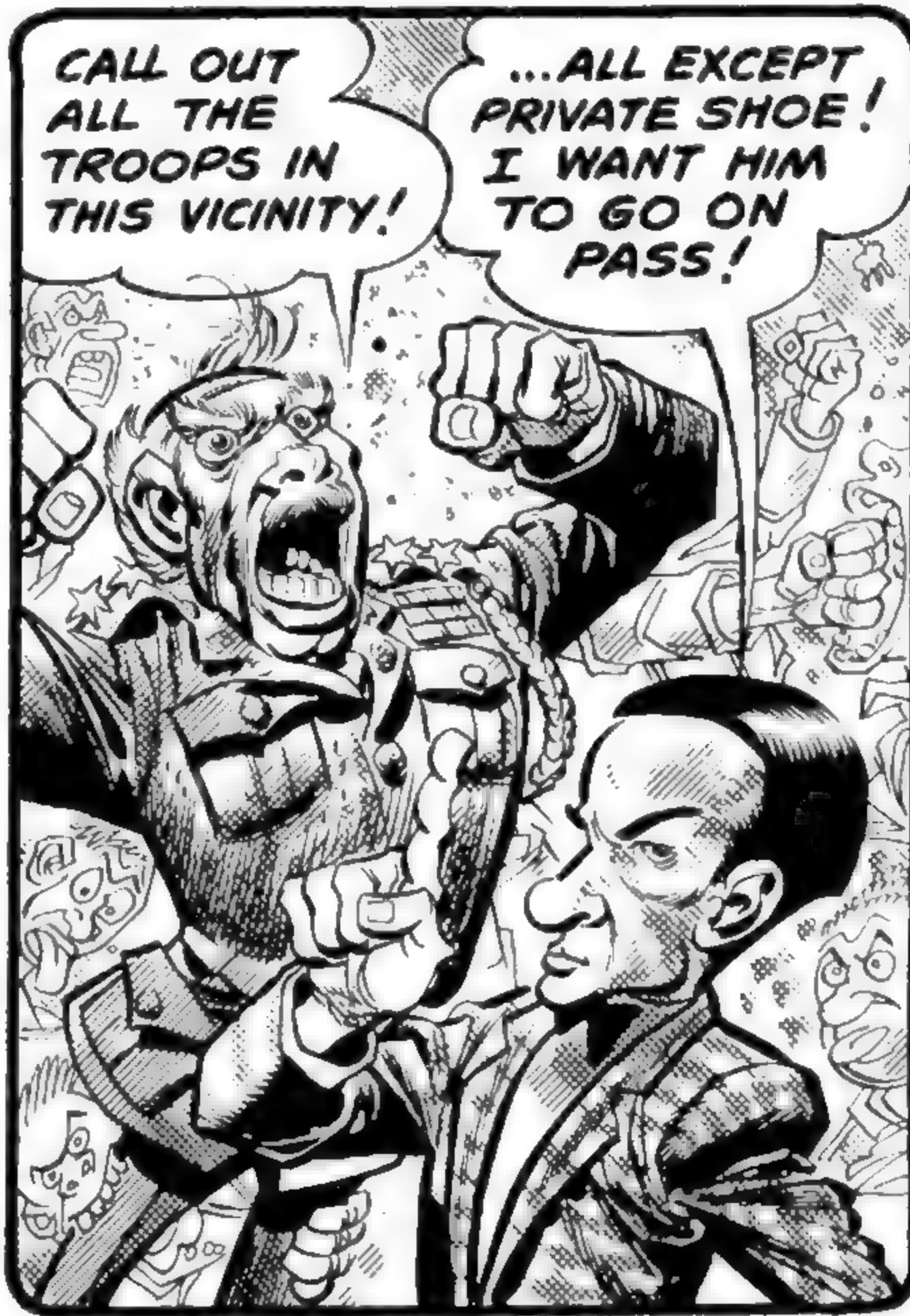
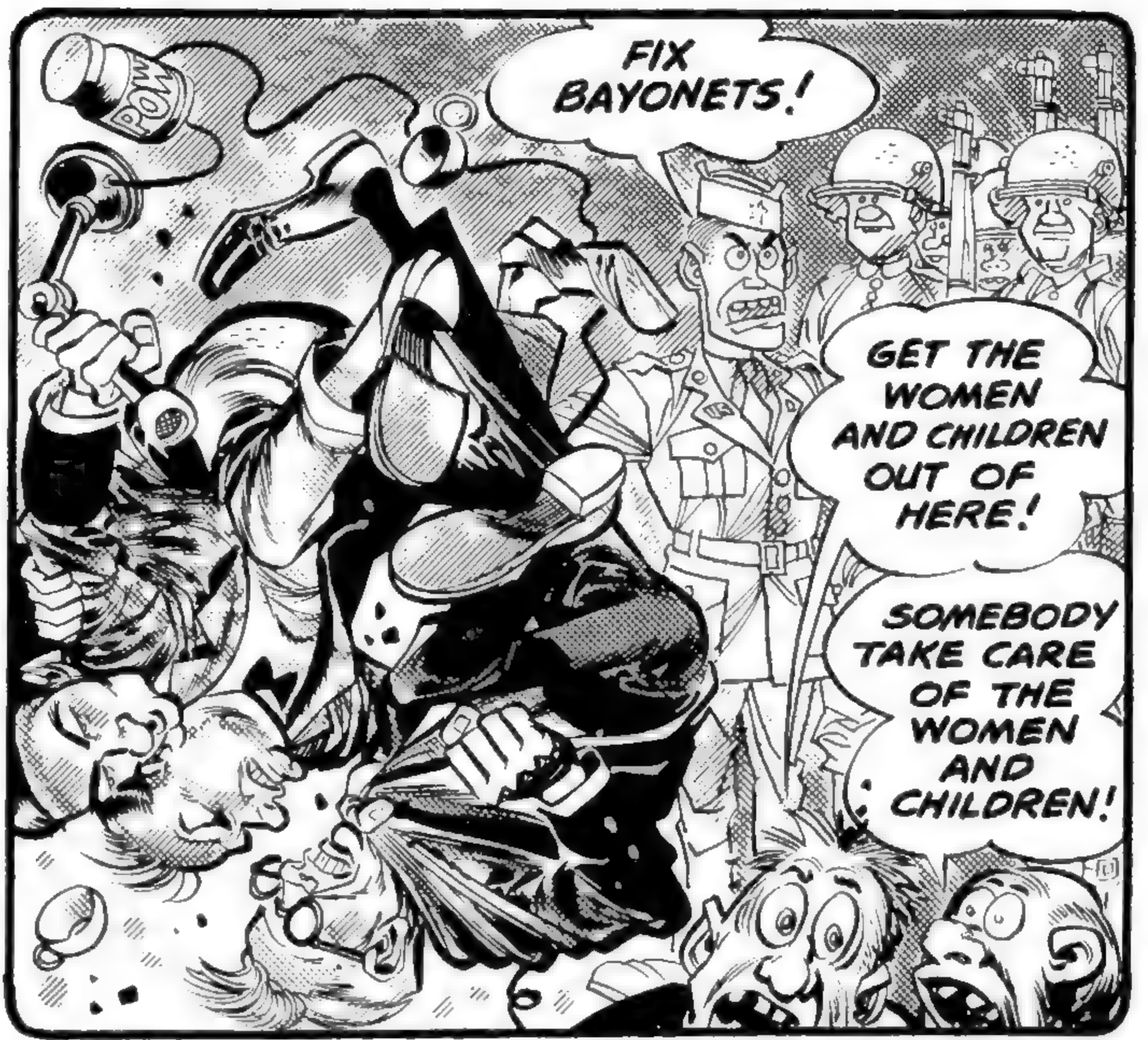
HERE IS THE ORIGINAL PHOTOGRAPH AS IT LOOKED BEFORE IT WAS DOCTORED! YOU WILL NOTICE THAT THE 'WARBONNET' IS A TURKEY SITTING ON A FENCE BEHIND EVEN STEVEN!... YOU WILL NOTICE THE 'WAR-PAINT' IS HOUSE-PAINT EVEN STEVEN WAS SPATTERED WITH WHILE PAINTING HOUSE WITH 'TOMAHAWK' WHICH IS IN REALITY A PAINT-ROLLER!



WHICH ALL GOES TO PROVE I AM NOT AND NEVER HAVE BEEN A RED-SKIN!

NOW 'EVEN'... NO NEED TO RAISE YOUR VOICE AND GET ANGRY! I REALIZE YOU'RE NOT **REALLY** A REDSKIN BUT MERELY A DUPE OF THE REDSKINS! I'M NOT MAD AND I'M WILLING TO SETTLE THIS ALL VERY QUICKLY IN THE HONEST, STRAIGHTFORWARD MANNER THAT IS THE INTELLIGENT WAY TO DISCUSS DIFFERENCES OF OPINION AND THAT SIMPLE MANNER IS...

...THAT SIMPLE MANNER IS...



Consistent with our past practice of devoting this page to a serious analysis of the situation of the world today and how it affects us, we present still another article taking up this subject. In the past, we have had analysts representing the bigger nations presenting their views. However, this time we thought we might turn to one of the small nations for their view since we deem the small view just as important as the big view and after all a small view can be very informative by contrast and so we present this small view from the small country, this small view entitled...

By

81

William Smith (1769-1839) was a man of quite humble origin, who spent most of his life as a canal engineer in Somerset and as a land-agent near Scarborough. During a busy professional life he managed to find time to construct a geological map of England and Wales, and at the same time to work out the succession of the stratified formations of the country by means of what came to be known as the geological column. The question of the time order of succession of the rocks of the north-west Highlands of Scotland and the age of the crystalline rocks composing the central and the southern Highlands. The extremely complicated structure of the far north-west was worked out by Lapworth and the officers of the Geological Survey, and proved to be the basis of the geological column of the British Isles. It is the basis of the geological column of the British Isles. It is the basis of the geological column of the British Isles.

During the latter half of the eighteenth century and the beginning of the nineteenth there was a violent and rather absurd controversy as to the origin of the igneous rocks. Some writers maintained that they were of volcanic origin, others that they were of igneous origin. The controversy was not settled until the middle of the nineteenth century, when it was found that the igneous rocks were of volcanic origin. The controversy was not settled until the middle of the nineteenth century, when it was found that the igneous rocks were of volcanic origin. The controversy was not settled until the middle of the nineteenth century, when it was found that the igneous rocks were of volcanic origin.

One of the most remarkable figures in the whole history of geology is William Smith (1769-1839) a man of quite humble origin, who spent most of his life as a canal engineer in Somerset and as a land-agent near Scarborough. During a busy professional life he managed to find time to construct a geological map of England and Wales, and at the same time to work out the succession of the stratified formations of the country by means of what came to be known as the geological column. The question of the time order of succession of the rocks of the north-west Highlands of Scotland and the age of the crystalline rocks composing the central and the southern Highlands. The extremely complicated structure of the far north-west was worked out by Lapworth and the officers of the Geological Survey, and proved to be the basis of the geological column of the British Isles. It is the basis of the geological column of the British Isles. It is the basis of the geological column of the British Isles.

Up to the first quarter of the nineteenth century very little was known about the older rocks constituting the western and the northern parts of Great Britain, though by 1810 the succession of the Devonian system in the north and east had been fairly thoroughly worked out. About this time Adam Sedgwick (1785-1851), Professor of Geology at Cambridge, and Sir Roderick Murchison (1790-1881) began to investigate the rocks of the north and the western Highlands. Sedgwick started in the north-east in Cumberland and succeeded in working out the succession of the Silurian rocks far to the westward of his starting point, where there the Cambrian system. Murchison on the other

hand worked out the Devonian system in the south-west, and the two men met at the Geological Society in 1830, and from that time the geological column of the British Isles was gradually completed.

The last and most famous of the geologists of this older school was Abraham Gottlob Werner (1749-1817) of Freiberg, Saxony. Werner apparently was a magnificent teacher, although the doctrine he taught was erroneous, and he certainly deserves the utmost credit as the real founder of economic geology. The Mining Academy at Freiberg has been in the forefront of the study of the metalliferous deposits ever since his day, but Werner's absolute adherence to the view of the origin of the igneous rocks of the earth has done much to retard the progress of geology for many years.

As early as 1755 J. E. Guettard (1729-88) had studied the eruptive volcanoes of Auvergne and had shown that the basaltic lavas there so abundant, far from being a chemical precipitate, as supposed by Werner, was in reality poured out in a geyser flow at many different times and places. Guettard (1729-88) followed this up a few years later by mapping the area in detail and working out the whole complicated history. In Scotland Murchison proved the intrusive nature of granite and various "trap" rocks. J. F. de Aulnoy, who had written a memoir on the igneous origin of the basaltic lavas, was converted by a visit to Auvergne, and even the great Leopold von Buch, at one time the most shining light of the Neptunist school, abandoned his Wernerian faith for the same reason. From that time the igneous origin of both dykes and intrusions and surface lava-flows was established.

The nineteenth century geology began to revive in England on account of attention now being attracted to it. A number of eminent men, deeply interested in the subject, but rather biased by the false speculations of the Neptunists and by the latter personal Wernean controversies, combined in 1807 to found the Geological Society of London. The avowed object of the founders was to steer clear of all pre-conceived notions and study-made theories, and to collect the facts for future discussion.

From about this same date, the beginning of the nineteenth century, the history of the development of geology becomes so complicated that it is impossible to follow up all the threads simultaneously, or within any reasonable compass to give a general account of the whole. The various branches, such as physical geology, petrology, paleontology and stratigraphy, began to have a more or less clearly defined separate existence, each with its own line of evolution and development, under the impulse of varying forces such as the advance of physics and chemistry, the remote of evolution, the advance of geographical exploration and so forth, and all these various lines of progress tended to be confined to one small corner of north-western Europe, but spread over the world from that point toward the only possible course is to exercise some kind of selection. The development of petrology and paleontology will be sufficiently apparent from the articles on these subjects, while the closely allied subject of stratigraphy has a history of its own—troubled by far fewer controversies. What follows therefore is a brief sketch of the progress of general geology, especially on its physical and stratigraphical sides, in the British Isles during the nineteenth century, with occasional excursions into other parts of the world where needed by the context.

One of the most remarkable figures in the whole history of geology is William Smith (1769-1839) a man of quite humble origin, who spent most of his life as a canal engineer in Somerset and as a land-agent near Scarborough. During a busy professional life he managed to find time to construct a geological map of England and Wales, and at the same time to work out the succession of the stratified formations of the country by means of what came to be known as the geological column. The question of the time order of succession of the rocks of the north-west Highlands of Scotland and the age of the crystalline rocks composing the central and the southern Highlands. The extremely complicated structure of the far north-west was worked out by Lapworth and the officers of the Geological Survey, and proved to be the basis of the geological column of the British Isles. It is the basis of the geological column of the British Isles. It is the basis of the geological column of the British Isles.

Physical Geology.—During the last fifty years physical geology has continued to develop, and it is only natural, the geological exploration of the great lands beyond the sea has tended to broaden the geographical horizon of the geologist. In the other continents there are on a higher scale, and probably of greater processes are more rapid owing to differences of climate, the greater prevalence of volcanoes and earthquakes and so on. It has also come to be recognized that in past ages processes probably were at certain times at any rate, more active and intense than they now are. Hence the present conception of physical geology may fairly be described as evolutionary rather than uniformitarian in the strict sense though there is no proof that processes ever differed notably in kind from those now in operation. The difference was mainly in degree. Very great stresses have been put of late to the formation of mountains and oceans and of mountain ranges, as well as to crust movements in general, but the place of the subject belongs rather to cosmogony and geodesy than to geology proper. Special mention should be made of the great progress of the study of glaciology in the last half century.

metaphysics are due to wind within the earth, produced by the weight of the sun and moon and heat. He looked upon earthquakes and volcanic phenomena as closely connected, the eruption being due to the final escape of the wind that caused earthquakes. Very singular and equally crude ideas were put forward by Lacroix, who also followed Adam Smith in attributing earthquakes to a part to fall of each within the earth. Smith recognized that Newton was a different volcano, though there was then no record of an eruption, he continued to believe in the active agency of an underground atmosphere. He cites in his Geography a number of cases of sinking and rising of land and he recognized that some sinks are volcanic, while others were apparently part of the continent. The most detailed account of earthquakes that has come down to us from antiquity is in the *Quintus Metastasis* of Seneca. He was much interested in an earthquake at Naples in 62 A.D. and distinguished several different motions of the ground, up and down, oscillatory and vibrational. He held firmly to the old idea that the most important factor was wind, while admitting the possibility of some shocks being due to collapse of caverns. Volcanoes he supposed to be due to the wind meeting steam of sulphur and other combustible, which were set on fire by friction. The action of rivers also, being of much importance to mankind, was discussed with more or less care. Murchison noted the great amount of salt brought down annually by the Nile, and perfectly correctly remarked "Egypt is the gift of the river," which is perfectly true. Aristotle displays considerable knowledge of the drainage system on the north side of the Mediterranean basin. He refers to the mountainousness of rocks and rivers and shows that the highest rivers rise in the highest ground, the also points out how river deposits are accumulating on the sea, and mentions specially in this connection some parts of the Black Sea, where after many years it became necessary to use ships of much higher draught, as the water had become much shallower and would soon be converted into dry land. Strabo also discussed the formation of plains and deltas by rivers.

From these ancient examples it might appear that the classical writers had accumulated a good deal of observational material, but in point of fact most of the conclusions that they drew as to ultimate causes were mere speculation and guesswork. It can hardly be said that scientific geology made any real progress throughout these ages.

Medieval and Early Modern Geology.—During the dark ages that followed the collapse of the Latin culture of the Roman Empire, the history of the development of geology was almost entirely blank. The revival of the classical sciences in the twelfth century was not a revival of the classical sciences, but a revival of the classical sciences. The revival of the classical sciences in the twelfth century was not a revival of the classical sciences, but a revival of the classical sciences. The revival of the classical sciences in the twelfth century was not a revival of the classical sciences, but a revival of the classical sciences.

Modern Geology.—With the work of James Hutton (1726-97), which is rather different reading, and his book on *Theory of the Earth* (1785-1789), we at last come to the beginning of modern geology. James Hutton was originally a medical man who studied at Edinburgh and Paris and took his doctor's degree at London. Later he took to farming in Berwickshire and eventually went to live in Edinburgh, where he published his *Theory of the Earth* (1785-1789), an expansion of a paper read to the Royal Society of Edinburgh. Owing to the obscurity of the style however the book did not receive full recognition till the appearance of a kind of commentary on it by Playfair, entitled *Illustrations of the Huttonian Theory*, published in 1802. This was so clear and striking as to gain a general acceptance for Hutton's ideas, which may perhaps be fairly summed up in the general formula that the processes that have been at work on the earth in the past are the same as those now in operation, and that it is not allowable to suppose any agent which cannot now be seen and proved to be effective. This affords a strong contrast to the wild speculations of the Neptunists and it is in fact the foundation of the so-called Uniformitarian school of geology, which has prevailed almost without opposition ever since, although there is now a growing feeling that it has been pushed too far, though true in its main features. Since the ideas of Hutton and Playfair have to a large extent become the commonplaces of physical geology, this subject is discussed more fully below (see II. Physical Geology). The work of Sir Charles Lyell (see below) was the direct consequence of Hutton's views.

To return for a while to the French school, it may perhaps be said that the founder of invertebrate paleontology was Lamarck (1744-1829), who is universally regarded as one of the originators of the doctrine of evolution and continuous progress of living beings, especially to the theory of catastrophic destruction and repeated creations, which largely prevailed everywhere during his time. This movement naturally turned his attention somewhat into his life to the study of fossils, which led him to formulate some geological ideas very similar to those of Hutton and Playfair, though arrived at quite independently. However, he did not pay sufficient attention to the possibilities of earth-movement, and attributed even the highest non-volcanic mountains to the wearing away of elevated plains, and he attached no exaggerated value to the time as geological agents. As a biologist he brought fossils into the forefront of his theories as a means of working out the history of the earth and the succession of events.

In a somewhat different way the great comparative anatomist Cuvier (1769-1829) is to be regarded as the founder of vertebrate paleontology. Cuvier's knowledge of comparative anatomy was so thorough that he was literally almost able to reconstruct a whole animal from a single bone or tooth. In a preliminary section of his great work, *Recherches sur les ossements fossiles* (1811) he gave an outline of what he believed to have been the history of the globe. This was truly catastrophic, in the most extreme form of the doctrine. He believed that there was evidence for the occurrence in the past of catclysms of world-wide extent, far surpassing even the conventional destructions of the Biblical deluge. He rejected entirely all ideas of organic continuity and substituted fresh creations of new forms of animals and plants. It is interesting to digress for a moment to find that after a century of the scientific Uniformitarianism of Hutton and Lyell there are now signs of a return to a form of catastrophism, though without a complete destruction of life.

During the latter half of the eighteenth century and the beginning of the nineteenth there was a violent and rather absurd controversy as to the origin of the igneous rocks. Some writers maintained that they were of volcanic origin, others that they were of igneous origin. The controversy was not settled until the middle of the nineteenth century, when it was found that the igneous rocks were of volcanic origin. The controversy was not settled until the middle of the nineteenth century, when it was found that the igneous rocks were of volcanic origin. The controversy was not settled until the middle of the nineteenth century, when it was found that the igneous rocks were of volcanic origin.

The brilliant and original work of Charles Lapworth (1842-1920) exercised a profound influence on geology in the latter quarter of the nineteenth century. He established the order of succession of the different groups of fossils.

to ancient times, especially in Italy. In that country itself, the very abundant, and several different theories of their origin were put forward. Some writers regarded them as mere fossils of nature "impure in nature," which had never been alive, others considered them to be relics of the universal deluge. More practicable theories soon began to prevail. Leonardo da Vinci (1452-1519) maintained that they had once been normal living organisms, and that what is now land had formerly been covered by the sea. Giordano Bruno (1584-1600) claimed that a single temporary deluge was inadequate to produce the observed effects, but that the movements in which the shells are found must have been applied from the sea.

But it was the Catholic ecclesiastic, Nicholas Steno (Stromboli) (1668-1744) at one time Bishop of Helsingør and Vice-Chancellor of Denmark, afterwards resident in Florence who can be regarded as the founder of modern geology and stratigraphy. After making a world-wide reputation as an anatomist, he turned to the study of fossils, and in 1686 published a small tract with the not very lurid title *De solido intra solvibile materia centro* in which he developed his ideas as to the past history of the earth as derived from his study of the rocks, dealing with many of the fundamental problems of physical geology and stratigraphy in quite modern language.

The Italian geological school of this period also included Antonio Vallisneri (1687-1750) who had a wide knowledge of fossils, and Leonardo Murri (1817-70) who made an extensive study of stratigraphy but attached no much weight to volcanic action on the basis of contemporary deposits.

The *Geognostische und Topographische* in other countries however, and especially in England, the study of geology ran on rather different lines. Instead of a picture accumulation of facts and inferences from them facts alone many writers indulged in fanciful speculations and wildly extravagant theories of cosmogony, mostly founded on their imagination. During the last twenty years of the 17th century there appeared a number of writings which attracted attention mainly by their sensationalism, both in England and abroad. As examples may be mentioned the works of Thomas Burnet and William Whiston. Burnet has a fanciful in his theories, although a much better scholar, than John Woodward whose *Essay towards a Natural History of the Earth* appeared in 1685. His large and valuable collection of fossils is still religiously preserved intact in the Sedgwick Museum at Cambridge, in accordance with the terms of his will. Woodward published a catalogue of his collection in 1729-30 under the title *An attempt towards a Natural History of the Fossils of England*. It is to be noted that at this time the term fossil included minerals as well as organic remains and the Woodwardian Collection contains some very fine mineral specimens.

A striking contrast is afforded by another group of geologists in France and Germany, who gave to the world the first really practical ideas as to the evolution of the earth. The first of these was René Descartes (1596-1650) who described the origin of the earth and the other planets to the cooling of an originally incandescent mass like the sun, leading to the formation of a solid crust over a still hot nucleus.

The ideas of Descartes were enlarged and systematized by Wilhelm Gottfried Leibnitz (1646-1716) whose work has had a permanent value. In his great *Journal*, the *Protogaea*, published only in 1704, he traced the passage of the earth from an incandescent mass of vapour to a solid globe, which by further cooling acquired a solid crust, perhaps now surviving in part to some of the most ancient rocks. He thought that as cooling went on great cracks might be left, filled with air and water; these cracks by gradual filling gave rise to valleys, while the mass cooled parts formed the mountains. While reasoning from the cracks might form the mountains, Leibnitz also attached much importance to fossils as indices of past changes and observations of land and sea.

Of much greater importance however in the development of geology was the work of G. L. L. de Buffon (1707-88) who had a much more acquaintance with rocks and fossils. He accepted the ideas of Descartes and Leibnitz as to planetary evolution, but substituted by the heat of such combination. The true nature of volcanicity will be discussed in detail later; it must suffice to say here that eruptions are due to the escape of gases under pressure of portions of the heated interior of the earth in a molten state, giving rise to flows of lava and showers of ash, with steam, other vapours, but in neither days trouble arose over the matter of certain rocks found among the earlier formations while resembling the products of modern volcanoes, and also as to the origin of such rocks as granite which appear to have involved active formations while in a molten condition.

The last and most famous of the geologists of this older school was Abraham Gottlob Werner (1749-1817) of Freiberg, Saxony. Werner apparently was a magnificent teacher, although the doctrine he taught was erroneous, and he certainly deserves the utmost credit as the real founder of economic geology. The Mining Academy at Freiberg has been in the forefront of the study of the metalliferous deposits ever since his day, but Werner's absolute adherence to the view of the origin of the igneous rocks of the earth has done much to retard the progress of geology for many years.

As early as 1755 J. E. Guettard (1729-88) had studied the eruptive volcanoes of Auvergne and had shown that the basaltic lavas there so abundant, far from being a chemical precipitate, as supposed by Werner, was in reality poured out in a geyser flow at many different times and places. Guettard (1729-88) followed this up a few years later by mapping the area in detail and working out the whole complicated history. In Scotland Murchison proved the intrusive nature of granite and various "trap" rocks. J. F. de Aulnoy, who had written a memoir on the igneous origin of the basaltic lavas, was converted by a visit to Auvergne, and even the great Leopold von Buch, at one time the most shining light of the Neptunist school, abandoned his Wernerian faith for the same reason. From that time the igneous origin of both dykes and intrusions and surface lava-flows was established.

The nineteenth century geology began to revive in England on account of attention now being attracted to it. A number of eminent men, deeply interested in the subject, but rather biased by the false speculations of the Neptunists and by the latter personal Wernean controversies, combined in 1807 to found the Geological Society of London. The avowed object of the founders was to steer clear of all pre-conceived notions and study-made theories, and to collect the facts for future discussion.

From about this same date, the beginning of the nineteenth century, the history of the development of geology becomes so complicated that it is impossible to follow up all the threads simultaneously, or within any reasonable compass to give a general account of the whole. The various branches, such as physical geology, petrology, paleontology and stratigraphy, began to have a more or less clearly defined separate existence, each with its own line of evolution and development, under the impulse of varying forces, such as the advance of physics and chemistry, the remote of evolution, the advance of geographical exploration and so forth, and all these various lines of progress tended to be confined to one small corner of north-western Europe, but spread over the world from that point toward the only possible course is to exercise some kind of selection. The development of petrology and paleontology will be sufficiently apparent from the articles on these subjects, while the closely allied subject of stratigraphy has a history of its own—troubled by far fewer controversies. What follows therefore is a brief sketch of the progress of general geology, especially on its physical and stratigraphical sides, in the British Isles during the nineteenth century, with occasional excursions into other parts of the world where needed by the context.

One of the most remarkable figures in the whole history of geology is William Smith (1769-1839) a man of quite humble origin, who spent most of his life as a canal engineer in Somerset and as a land-agent near Scarborough. During a busy professional life he managed to find time to construct a geological map of England and Wales, and at the same time to work out the succession of the stratified formations of the country by means of what came to be known as the geological column. The question of the time order of succession of the rocks of the north-west Highlands of Scotland and the age of the crystalline rocks composing the central and the southern Highlands. The extremely complicated structure of the far north-west was worked out by Lapworth and the officers of the Geological Survey, and proved to be the basis of the geological column of the British Isles. It is the basis of the geological column of the British Isles. It is the basis of the geological column of the British Isles.

A vibrant, comic-style illustration of a pirate crew on a beach. In the center, a man in a red and white striped shirt and yellow scarf kneels, holding a shovel and a treasure map labeled "TREASURE". To his left, a man in a blue shirt and yellow pants strikes a pose. In the foreground, a man in a red shirt and yellow pants sits on the sand, holding a sword. To the right, a man in a red shirt and blue pants stands, holding a large sword. In the background, a large pirate ship is visible on the water. The scene is set on a sandy beach with a skull and crossbones in the foreground.

PIRACY

BUT IF YOU ***CAN'T FIND PIRACY***
AT YOUR LOCAL NEWSSTAND, YOU
CAN ***SUBSCRIBE!*** JUST FILL OUT
THE COUPON AND MAIL, TOGETHER
WITH ***ONE HUNDRED PIECES OF***
CENT (THAT'S ONE BUCK, LAND-
LUBBERS!), TO:

STATE _____ ZONE NO. _____

ZONE
NO.

MAD MUMBLINGS

Dear Editors,

... To you our thanks. In our school there is an E.C. fan. He is a raving, ranting, rampaging, roving, slivvering, slobbering, senseless maniac. He goes down the halls turning flips, hollering Hooooohahhhh, and otherwise making an idiot of his crazy self. He goes to all extremes to get attention, even if it means climbing up on a desk and diving off on his pointed little head. But then once a month, in comes MAD, and for a whole day he is quiet as a bird while he sits around and drools over MAD. We want to thank you for a wonderful comic book that gives us a day of rest. Too bad you can't make MAD a daily.—Blue Beathard—Kirbyville, Tex.

... I just read MAD and I thought the auto-seat advertisement was good.—Rocky Colasanti—Detroit, Mich.

... We of SPAMWF (Society for the Prevention of Abuse and Misuse of the Word Furshlugginer) strongly object to the misuse of the word "furshlugginer" in your stories. You have distorted the true meaning of this word by associating it with such terrible words as "potrzebie." Please don't!—Burl Moss, Pres. SPAMWF—Detroit, Mich.

... I have just read your smoking test and now I am the proud owner of no head. I have a joke: Hans and his parents are taking a walk. His Ma falls over a cliff. His Pa says, "Look Hans, no Ma!"—(no name given)

... Last week my best friend informed me that in his work he finds gobs and gobs of issues of MAD. The next day I got a job with him, and now I am living happily ever after with a warehouse full of MAD magazines.—Stan the Garbageman—(no address)

... We have been reading and enjoying MAD for quite some time now and we haven't found much wrong with it, but even so, we have one gripe. We really think that scape-goating and fun-poking at any Race, Religion, Color or Creed is unnecessary. MAD hasn't much of this, but we all agree that Chop Chop of The Black and Blue Hawks in MAD No. 5 was portrayed as a very bad picture of the Chinese people and was shown as inferior to the other characters in the strip. We aren't saying that things like this happen very often in MAD, but we're sorry that a good mag such as MAD has to let it happen at all.—Robert Glaberson—Brooklyn, N. Y.

We are sorry if reader Glaberson or anyone else interpreted our story's purposes as such. Actually, we are and were very conscious of the evils of race prejudice even as we wrote the aforementioned story.—ed.

... I used to think your comic-books were O.K., but now I think it's time you guys started to grow up. It was all right just throwing junk in your books and trying to sell them to kids who are low in mentality as you are, but since the new edition came out with the picture of the Madonna on it with one of your screwed-up comic books in her hand, it is going a bit too far. Have guys gotten so hard-up and ignorant for those comic-books that you have to print a picture of her on

your front cover? Don't get me wrong. It's not the picture that I'm mad about but what the picture stands for. But I guess you guys have not the brains to figure that out.—Frank Smith—(no address)

MAD'S No. 14 cover is the famous Mona Lisa by Leonardo Da Vinci and has no connection with any religious figure whatever.—ed.

... If Mrs. Harriette K. Vandenbaum of New Haven, Conn. (Mad Mumblings, MAD No. 14) is right, she must have been on a steady diet of MAD for over 40 years. If you want my opinion, which I am sure you don't, I think that MAD is the height of intellectualism.—Gilbert O'Connell—Blairstown, N. J.

... In reading issue No. 14, I read, as I always do, the Mad Mumblings section. I have not had the good fortune of being a MAD fan for very long, (about six months), but I bristled when I read Mrs. Vandenbaum's letter. I have, from the onset, been a firm believer that all of the humor in MAD can be appreciated by the very young reader, but I also believe that there isn't, and there never has been anything in MAD that could be in any way considered a detriment. I myself am a comic-book hater, but MAD is more than a comic-book. MAD is a publication that makes its readers stay on their toes to get all the humor. But back to Mrs. Vandenbaum. Madam, you must think your son is a weak-willed moron, or a blithering idiot if you think he and others like him will be led to a life of crime by this magazine. I believe you will find that the age-group that reads MAD is considerably older than that for any comic-book. In closing, I would like to say that this is one adult reader who is not an idiot.—Phillip Loeb—Taylorville, Ill.

... O ISQOQ RNSAQ NOIQOQIAO ROLN SOIQ AQAAO
(OIL IS 14)-AQOQIN IPIU—
(Kieth Nutt)—Midland, Tex.

... HIAQIHO HIFHHA LNO SLNOQ AQILQOQ OI
SOIQ AQAAO HIAHNIQOQ HIA RQ AIL HIAQOQ LNO
RNSAQ LNOIS I H I PIQO - SOISQO ILAQO—
(Ginger Adler)—Los Angeles, Cal.

IOSPI OIL14. RNO LOI OOHNIQIA IISQAS HIOIL
OSII AQMI ROLN LNO OIL HIOQA HIAQI. OI
HIOQO HIA OQ LNIL HNO RSPAL ISL HIOQ
QISPSN HIOQO17Q IS HIOQ HIOQA ROLN II
PIQOQIL HIAQOQSI H OIL AQH HIO OQAHIOI—
(Sam Browman)—Albert Lea, Minn.

... Come on, let's see more of Wolverton's work!—J. D. Carlson—New York, N. Y.

... I WANT BASIL!—Richard Scott—Bellerose, L. I.

You've got him!—ed.

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ADVERTISING DEPT.: THERE IS A FAMOUS BEER IN THE EAST THAT RUNS INTERESTING TYPE ADS IN THE NEWS-PAPERS... INTERESTING 'CAUSE THEY TELL HOW THE BEER IS DRY... IS NEVER FILLING... IS BEER AS BEER SHOULD TASTE... BUT MAINLY, IS PICTURE OF GOOD-LOOKING DOLL IN MIDDLE LOOKING SOMETHING LIKE THIS...

MEET *Miss* POTGOLD

"My beer is
Potgold
-the Dry beer!"

says HESTER SHVESTER
MISS POTGOLD 1954



1.

Beer as beer should taste!

Yes... Potgold beer is refreshing — never filling! Potgold's extra dry-ness let's you taste the clean, clear, beer flavor. Potgold beer is beer as beer should taste! Yes sir, we **guarantee** Potgold tastes *just like beer!*



REGULAR

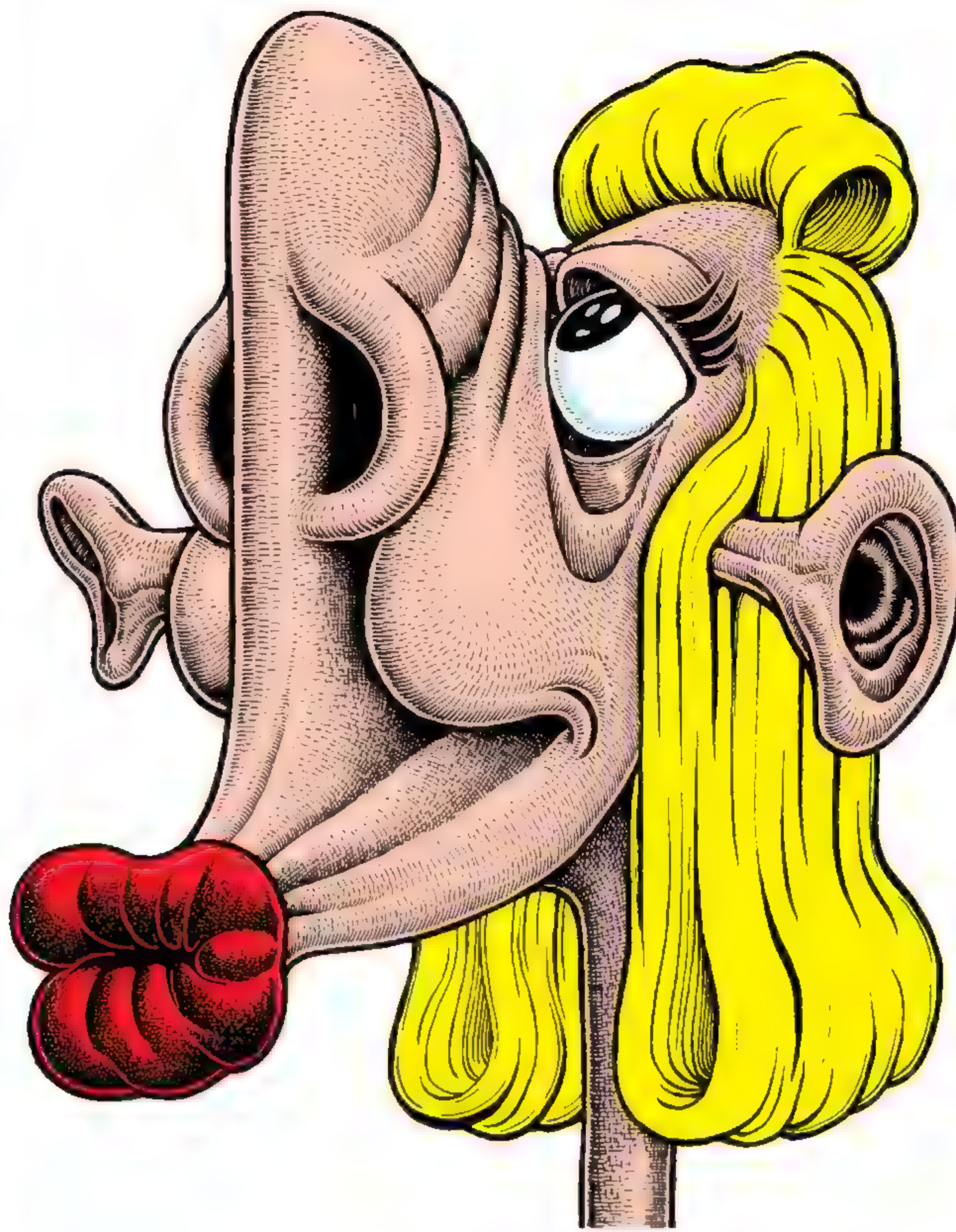


KING-SIZE

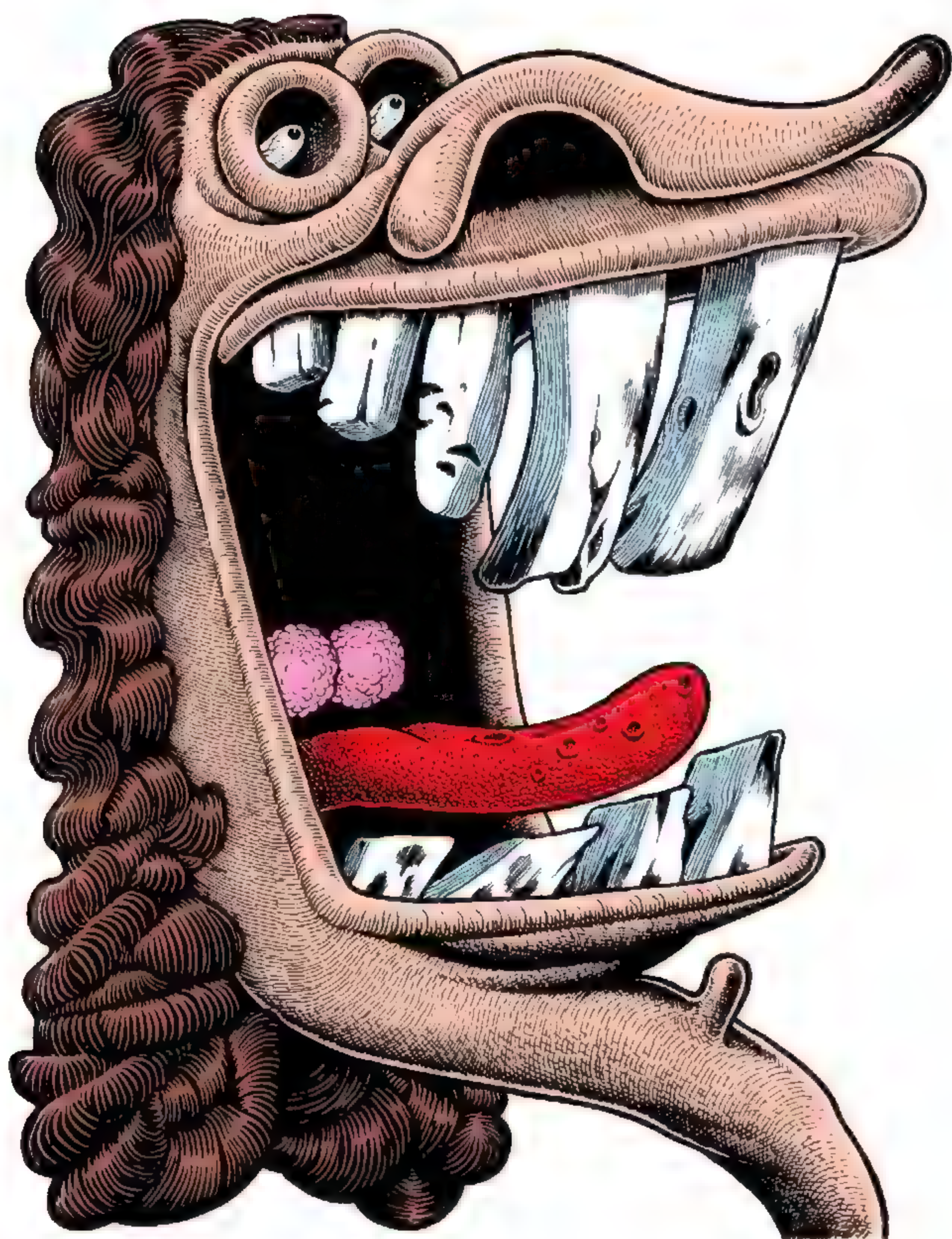
BUT HERE COMES THE **MAIN** PART OF THE ADVERTISING! YOU SEE, THIS HERE GIRL IS ONLY MISS POTGOLD OF 1954!... COMES 1955, THEN WHAT?... HAH!... SLY OLD MELVIN POTGOLD, OWNER OF POTGOLD BEER HAS A CONTEST RUNNING WHERE YOU, THE POTGOLD BEER DRINKER CAN **CHOOSE MISS POTGOLD OF 1955!** AND SO, ON THE NEXT 4 PAGES, WE PRESENT CANDIDATES FOR **MISS POTGOLD OF 1955!**



MISS BEDNEY FLUNT



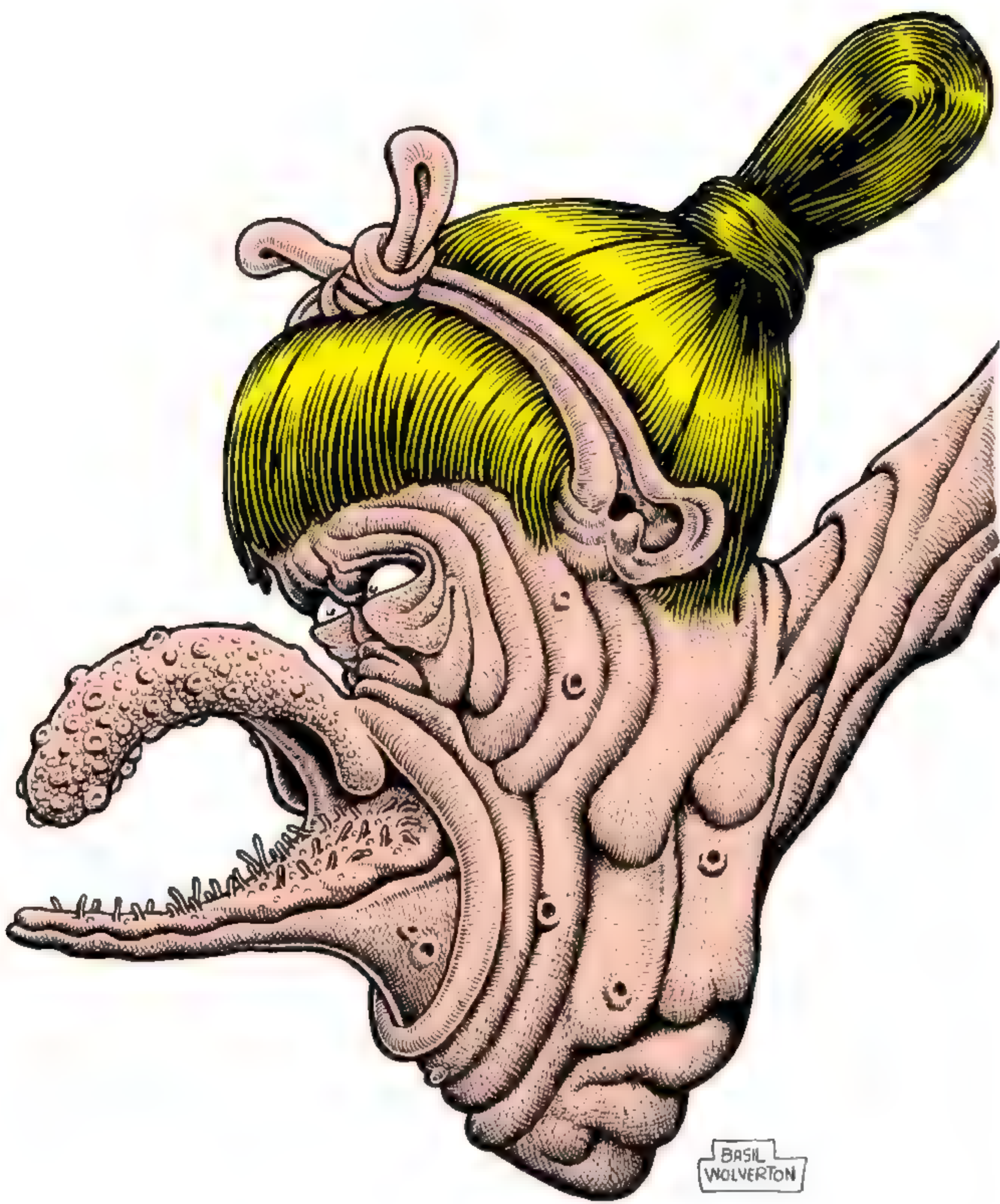
MISS FLUDNEY BENT



MISS FLENTNEY BUNT



MISS BLENTNEY FUNT



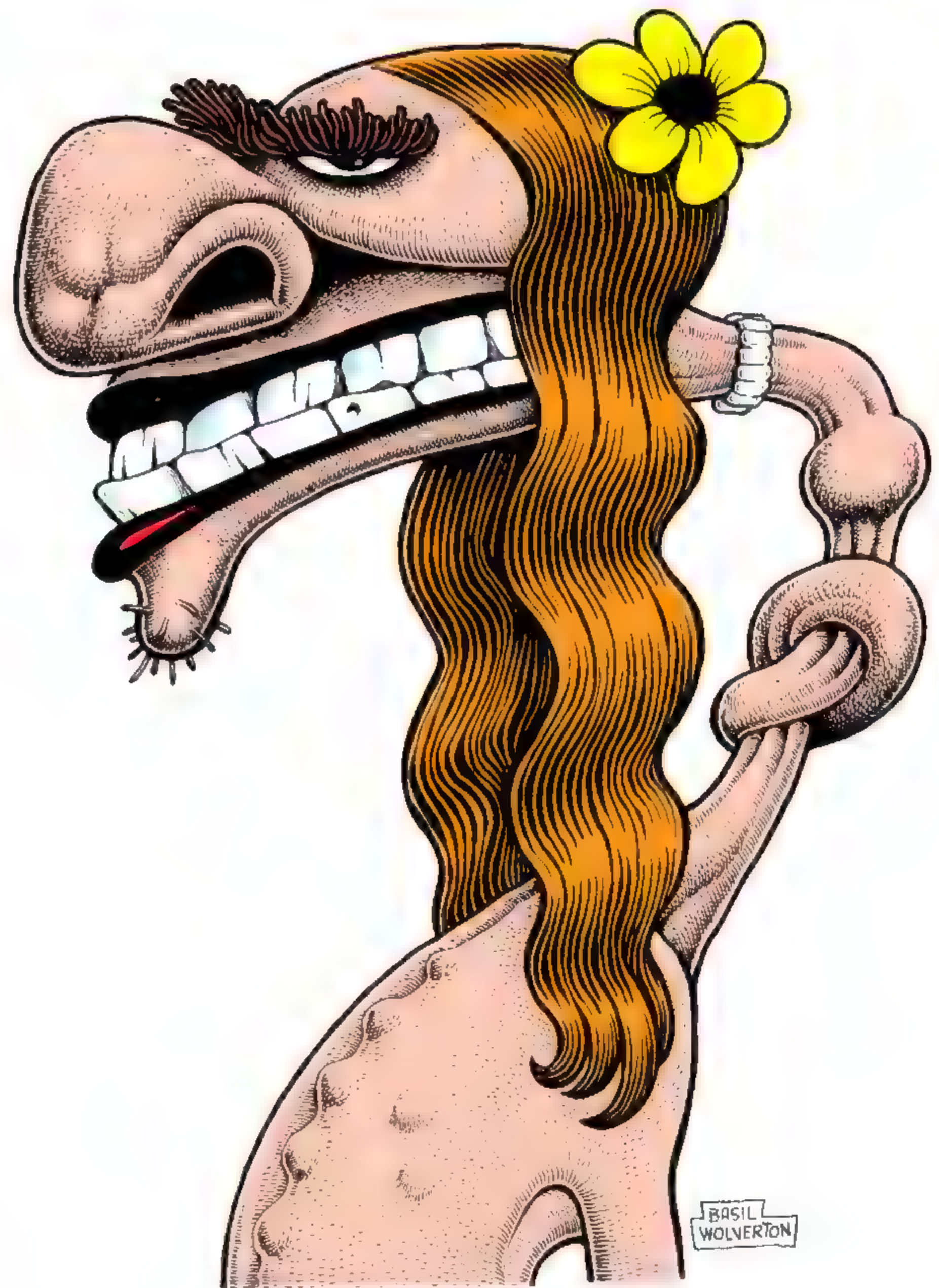
MISS FLUNTNEY BLENT



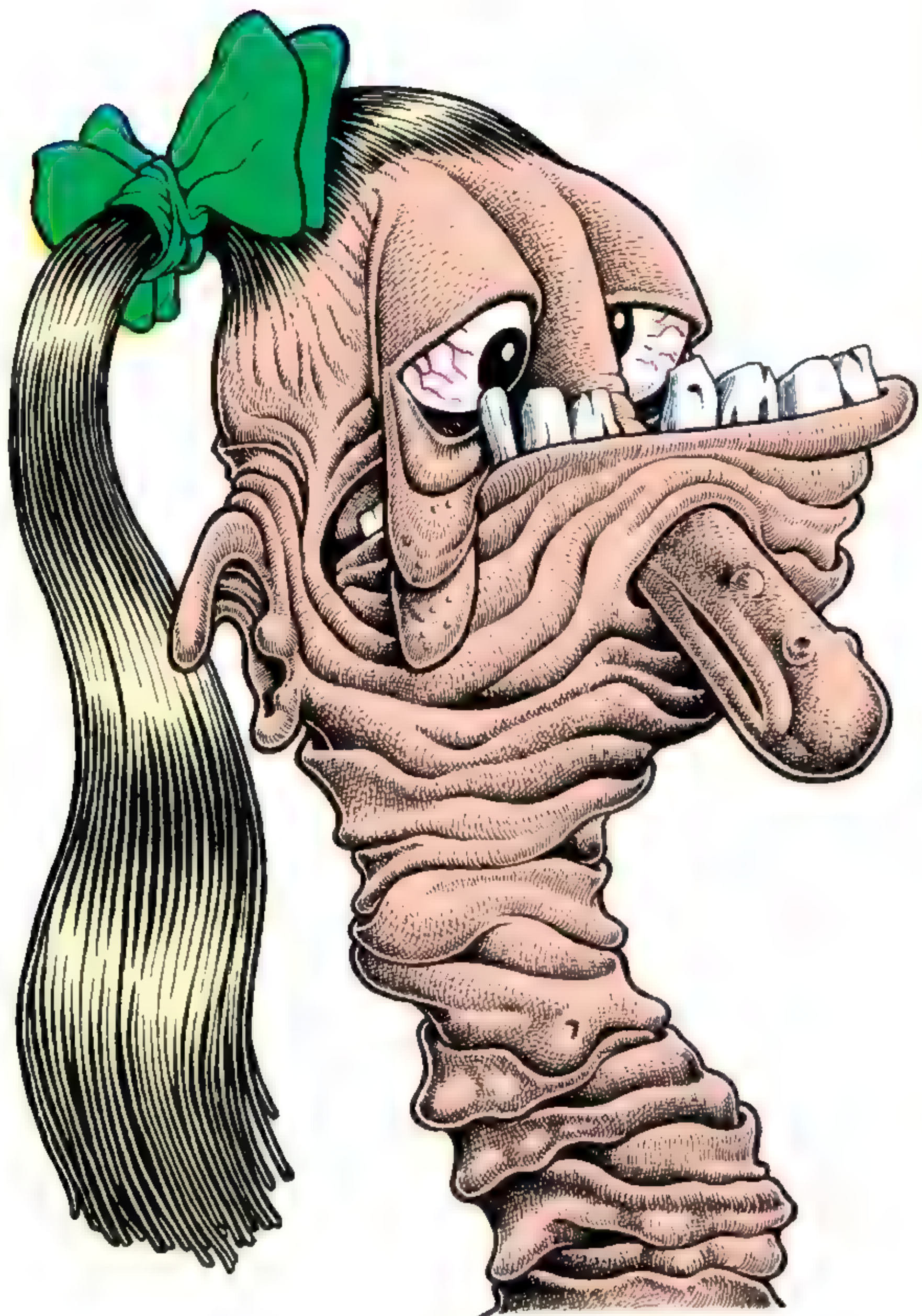
MISS PHILODENDRON POTGOLD
(...WHO JUST HAPPENS TO BE GORGEOUS NIECE OF
MR. MELVIN POTGOLD, OWNER OF POTGOLD BEER.)



MISS FLINTNEY BONT



MISS BONTNEY FLONT



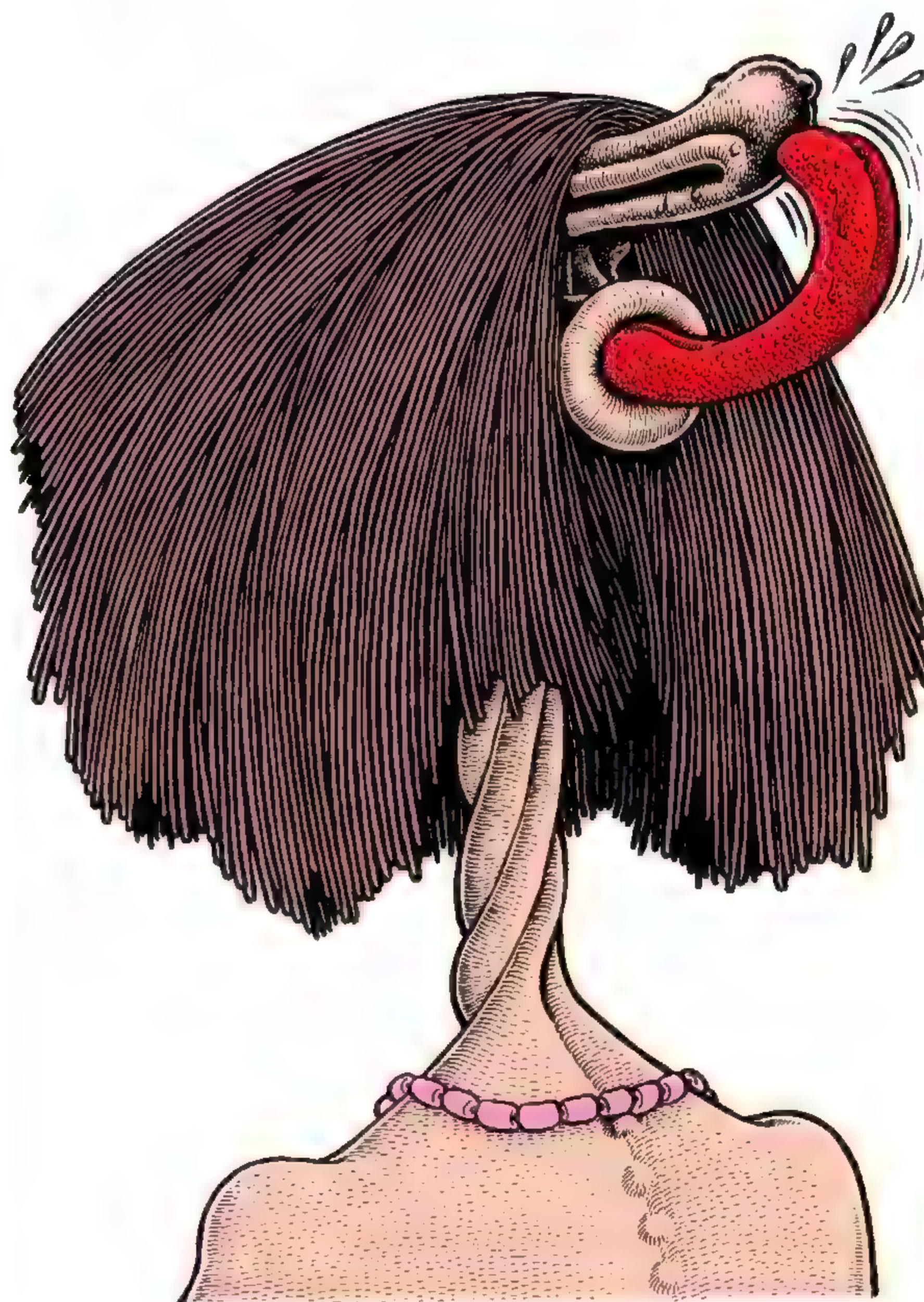
GEORGE



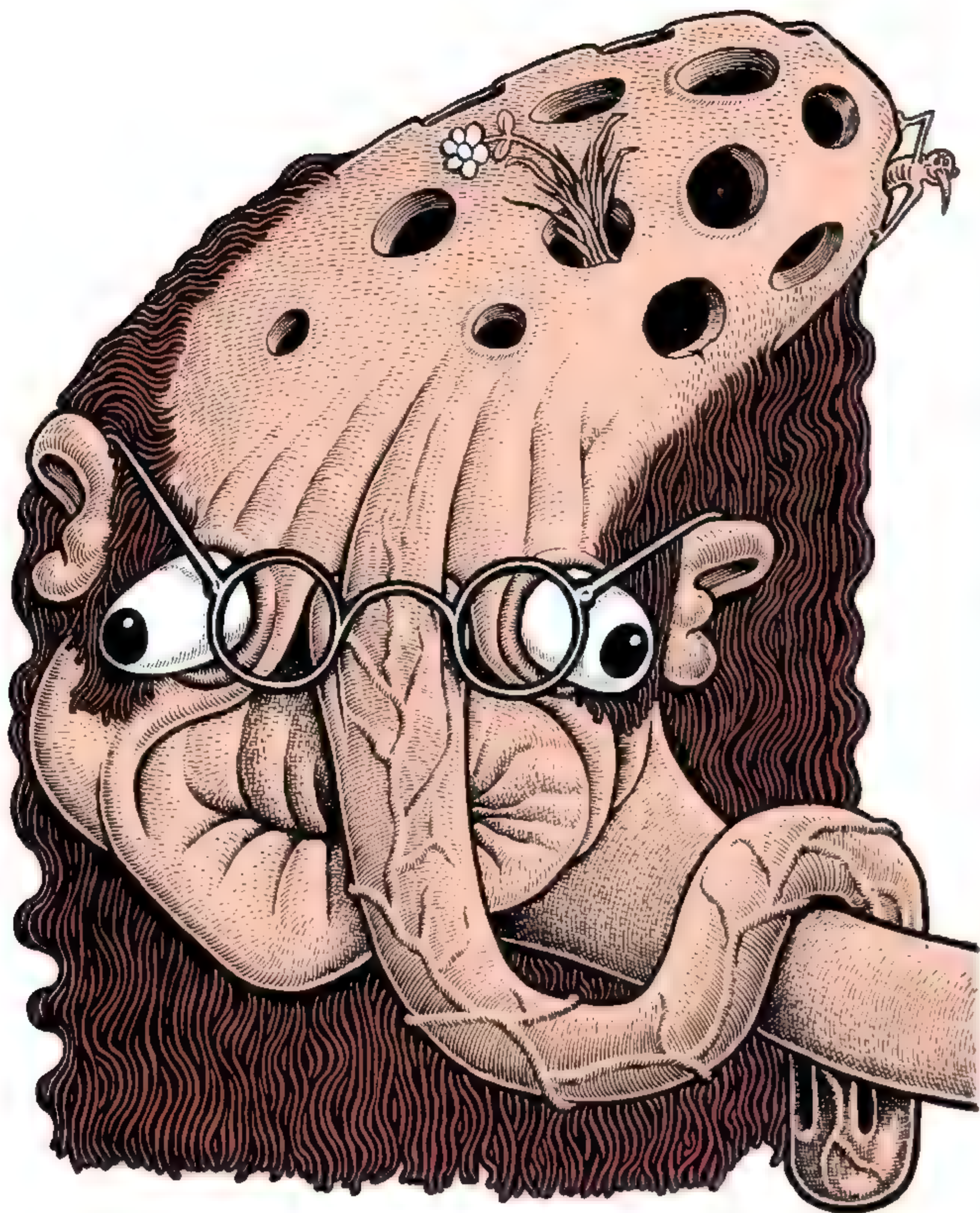
MISS PHILODENDRON POTGOLD
(...WHO JUST HAPPENS TO BE GORGEOUS NIECE
OF MR. MELVIN POTGOLD, OWNER OF POTGOLD BEER.)



MISS FLOONTNEY BOONT



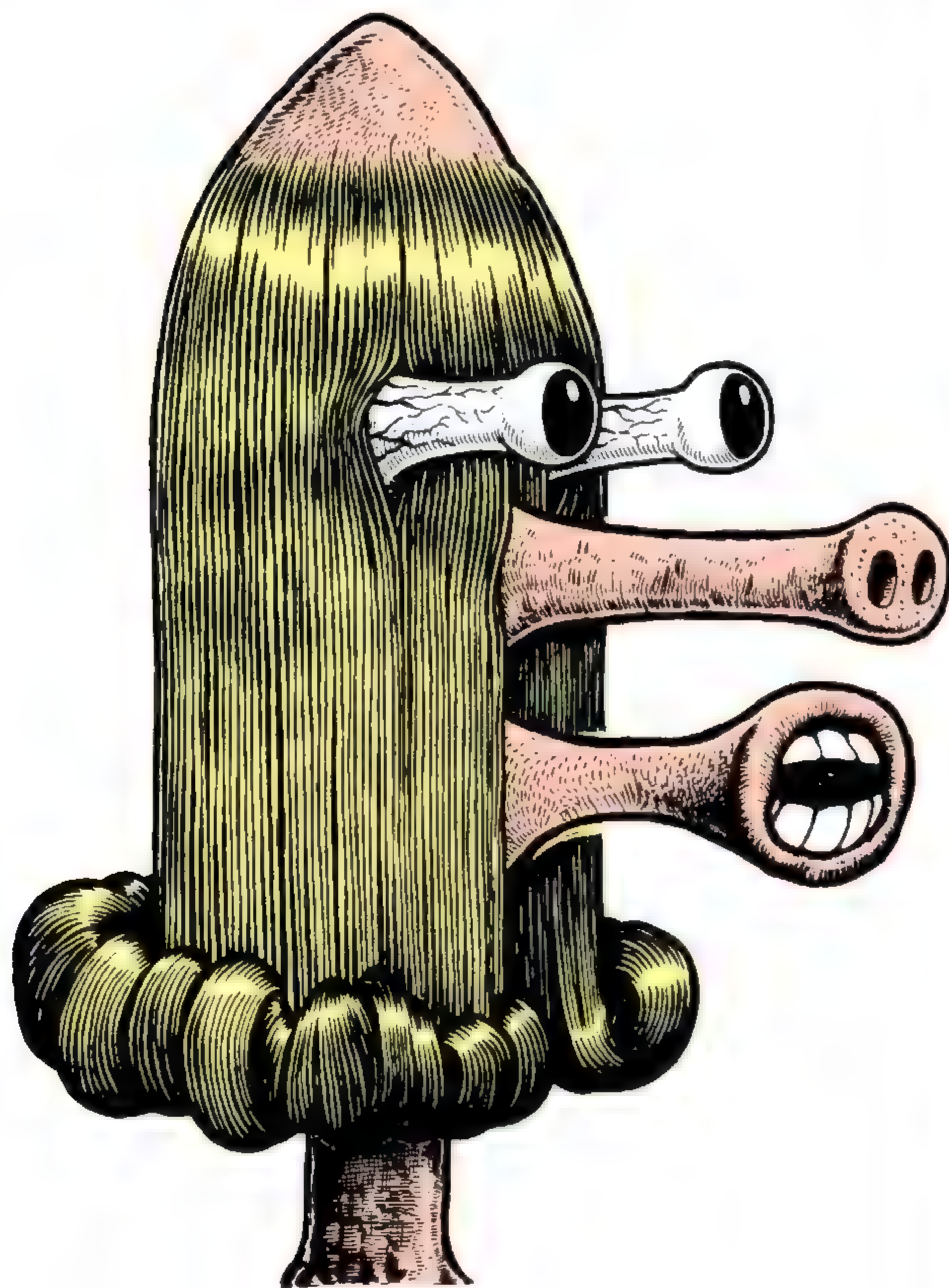
MISS WOONTNEY GOONT



MISS POONTNEY SPADAFROONT



MISS PHILODENDRON POTGOLD
(... WHO JUST HAPPENS TO BE GORGEOUS NIECE
OF MR. MELVIN POTGOLD, OWNER OF POTGOLD BEER.)



HEAP



MISS PHILODENDRON POTGOLD
(... WHO JUST HAPPENS TO BE GORGEOUS NIECE
OF MR. MELVIN POTGOLD, OWNER OF POTGOLD BEER.) 5

AND NOW...VOTE FOR YOUR CANDIDATE FOR MISS POTGOLD OF 1955!



PHILODENDRON POTGOLD

☐ MISS FLUNTNEY BLENT

☐ MISS FLINTNEY BENT



MISS BEDNEY FLUNT



MISS FLUDNEY BENT



MISS FLENTNEY BUNT



MISS BLENTNEY FUNT



MISS BONTNEY FLONT

GEORGE

MISS FLOOTNEY BOONT

MISS WOONTNEY GOONT

MISS POONTNEY SPADAFONT

HEAP

TO CASTE YOUR VOTE...MERELY CHECK **ONE** OF THE NAMES ABOVE!... LIKE FOR EXAMPLE, IF YOU THINK **PHILODENDRON POTGOLD**, GORGEOUS NIECE OF MR. MELVIN POTGOLD, SHOULD BE ELECTED... PLACE A CHECK IN THE SQUARE NEXT TO HER NAME!... IF YOU THINK ANY OTHER GIRL SHOULD BE ELECTED, GO AHEAD... PLACE A CHECK NEXT TO THE NAME OF THAT SQUARE! THEN CUT OUT THE BALLOT ABOVE AND SEND IT IN TO US, ALONG WITH THE BUNG FROM A KEG OF **POTGOLD** BEER!... YOUR VOTE WILL DETERMINE WHO WILL BE **MISS POTGOLD OF 1955!**... AND REMEMBER... LIKE **HESTER SHVESTER**, **MISS POTGOLD OF 1954** SAYS...

"My beer ish
Potgold
-zha Dry beer!"

says **HESTER SHVESTER**
MISS POTGOLD 1954



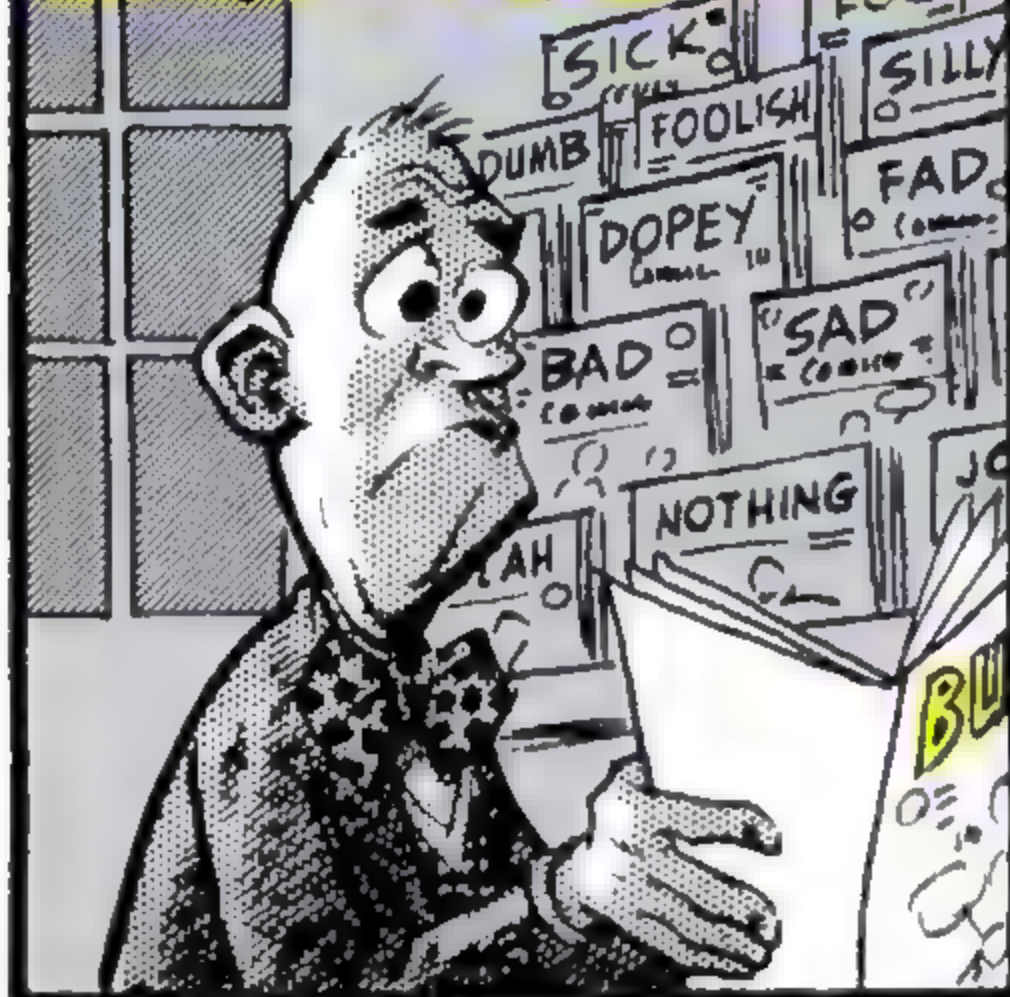
Beer as beer should feel

Let's face it, folks!... refreshing... never filling... beer as beer should taste... **fooeey!** Taste shmaste! We of Potgold make no bones about it... Potgold makes you drunk! So get Potted! Get Potgold... extra dry beer and extra extra dry beer!



Dear readers!... We interrupt this next story for a special announcement! I, your MAD writer am going to the...

BUGHOUSE



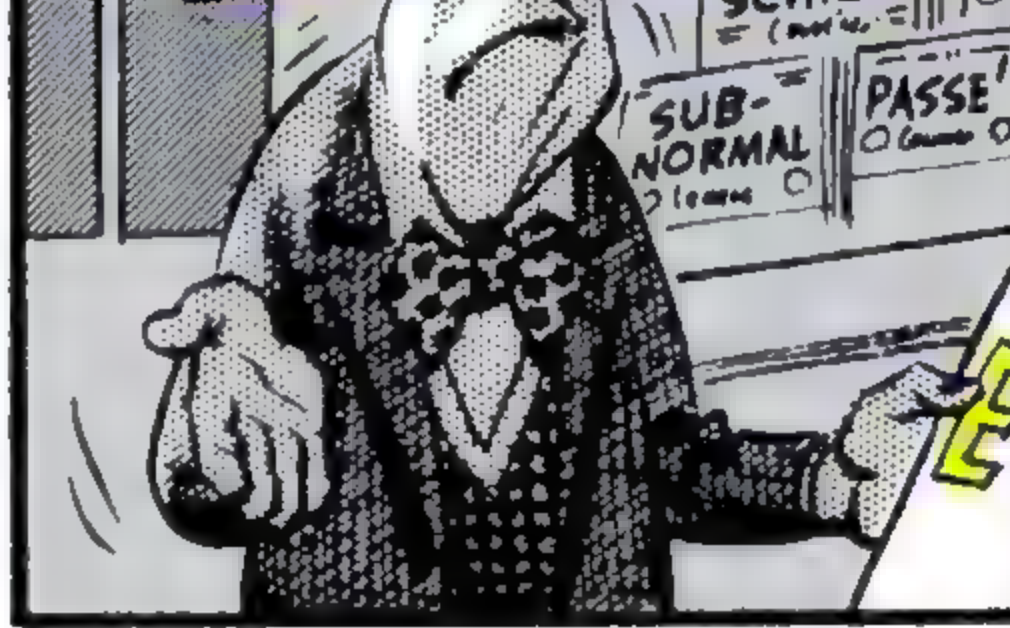
Today... there are so many lampoon type comic books on the newsstands, the competition is driving me...

CRAZY



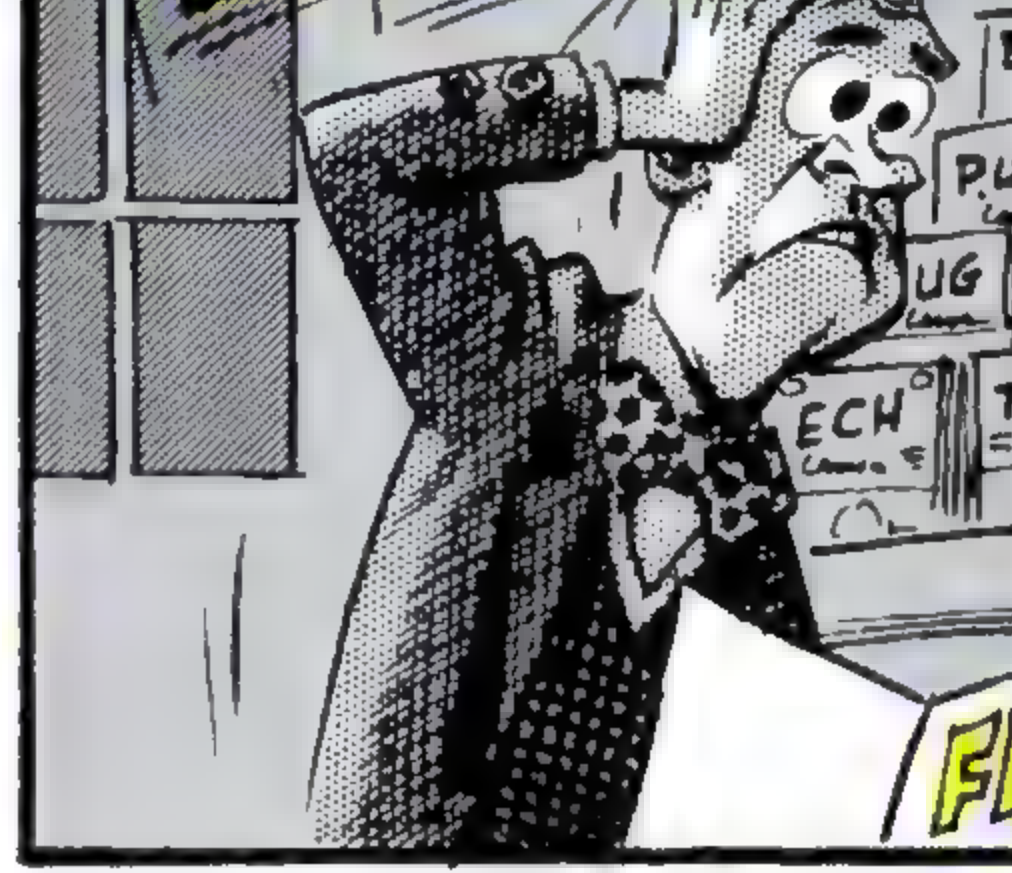
But competition is the American way and although we are inclined to shrug off our competitors with a mere...

EH!



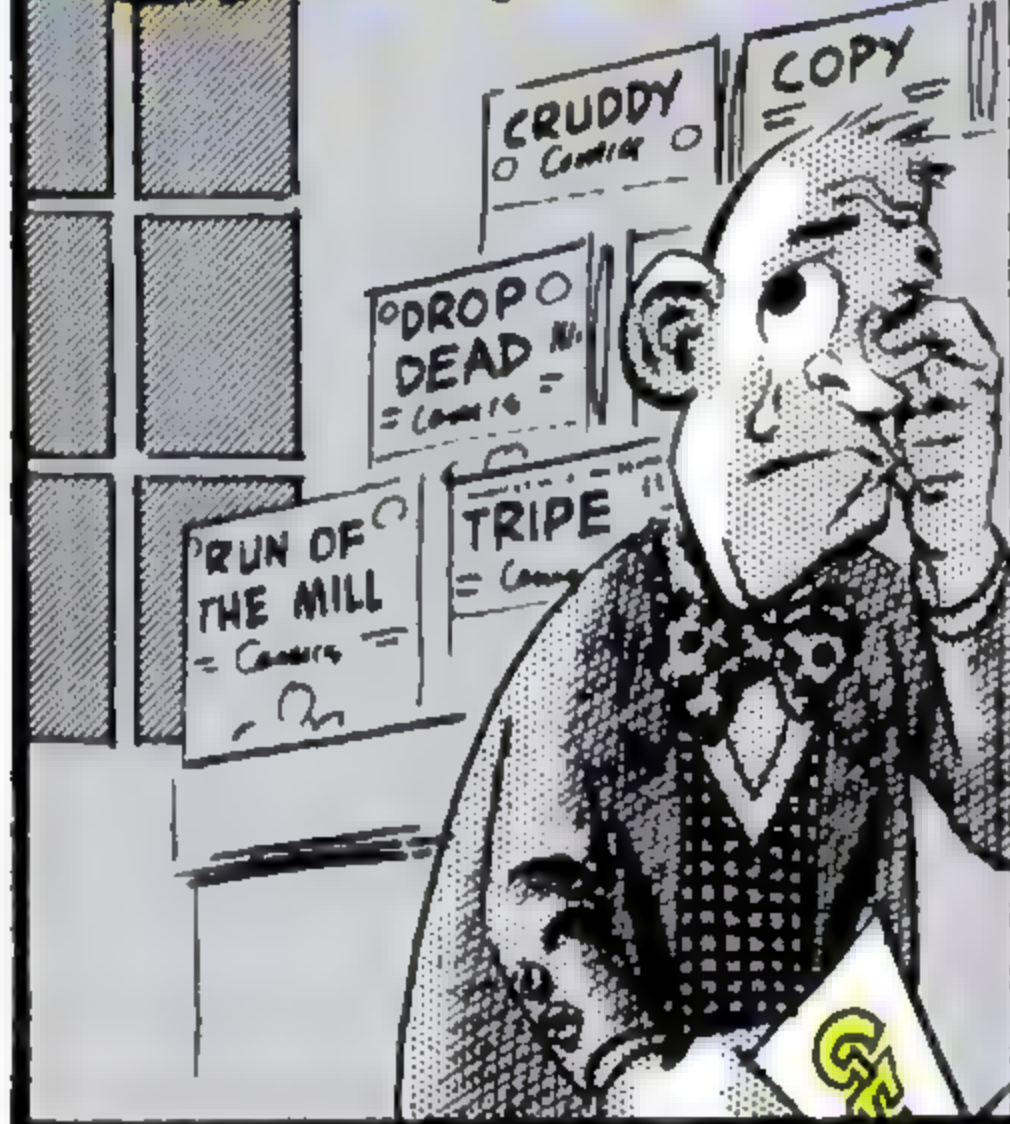
...the fact is, twelve comics books during the calendar month grind thirty-two lampoon stories at a...

FLIP



Now, lampoon material is very limited, and when lampoon writers cannot get any more of this material, they will...

GET LOST



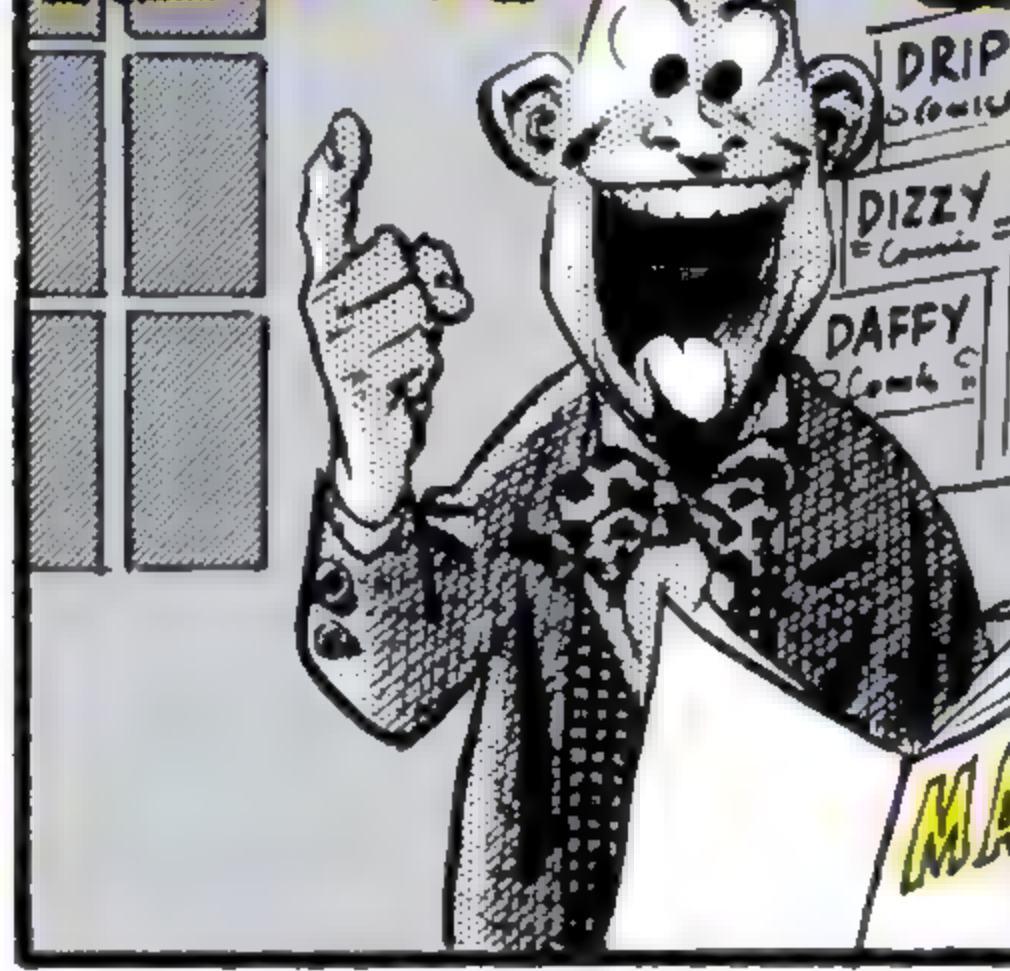
...And so, I... your MAD writer hereby announce that there is no more material left... and that's why I'm going...

MAD



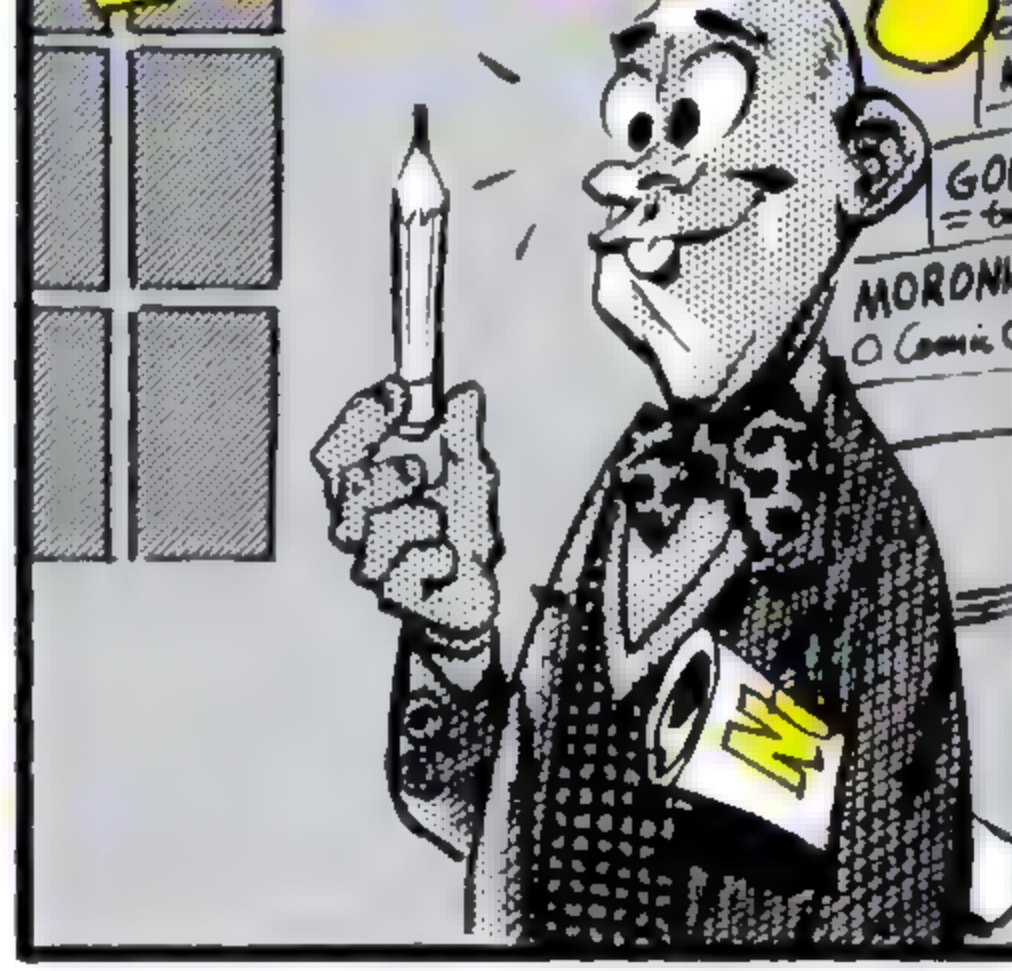
...Here I am, with no more material to finish this book!... However... there's one idea left that might save me from the...

MADHOUSE



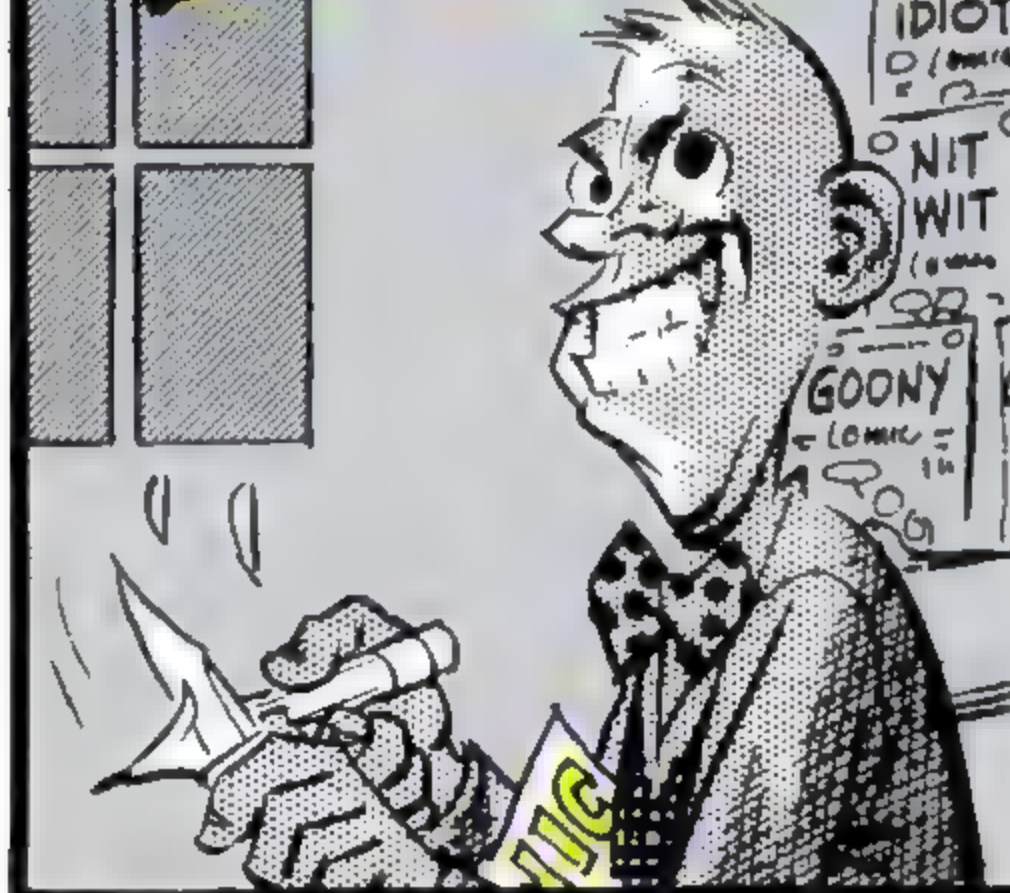
...One idea that hasn't been attacked by the lampoon comics, although lord knows they've done everything from soup to...

NUTS!



And what the lampoon comics have not lampooned are the lampoon comics!... Ha! You think I clutch this wretched idea from sheer...

PANIC



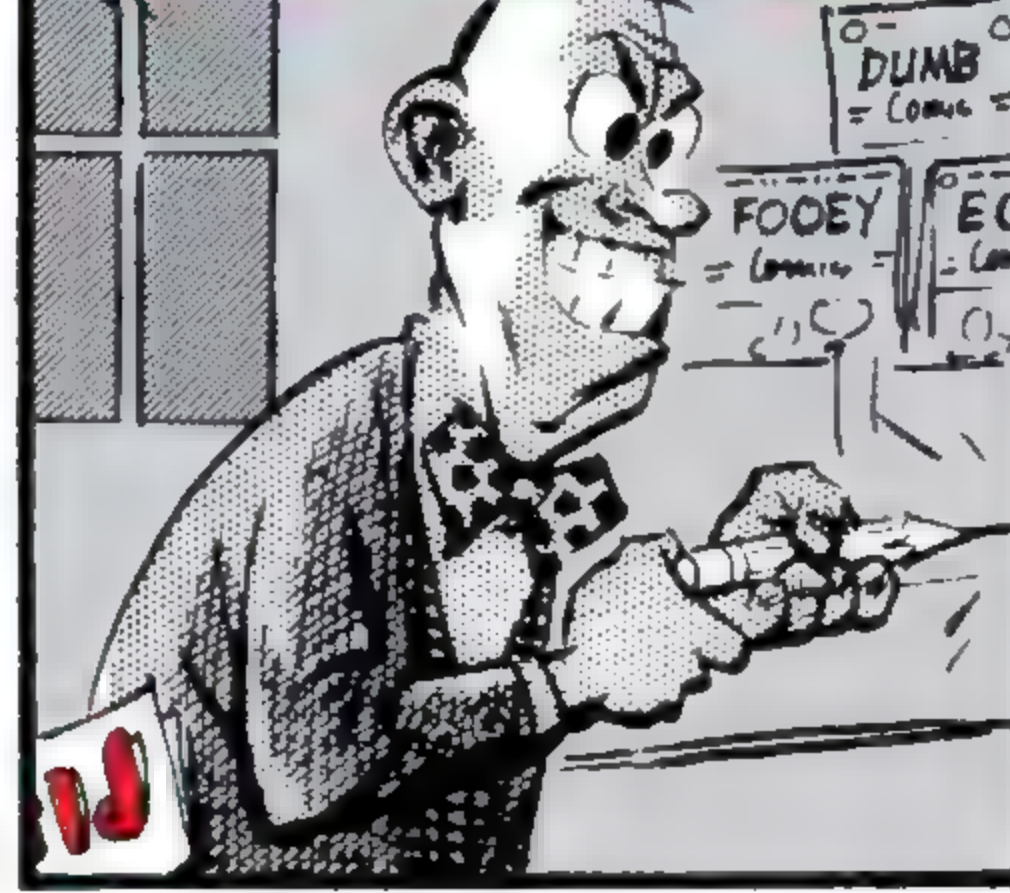
Not so! To watch the standard gag situations and routines appearing in our different books at the same time is truly a...

RIOT



With the following story we propose to take our brush and our ink... we propose to enter our own back yard and run...

WILD



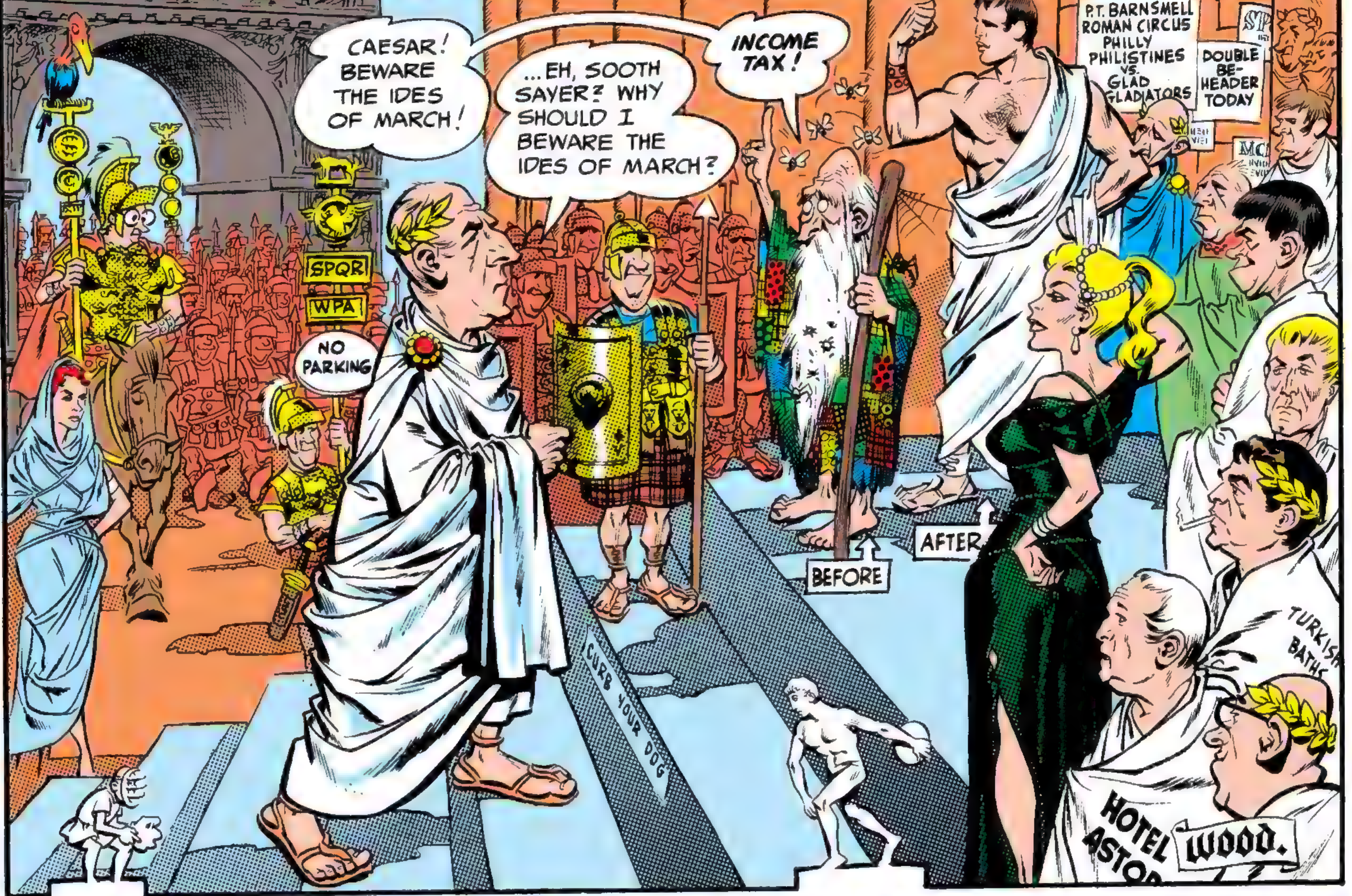
So as we adjust our neck on the chopping block, our final word is... there is nothing at which we're not willing to take a...

WHACK

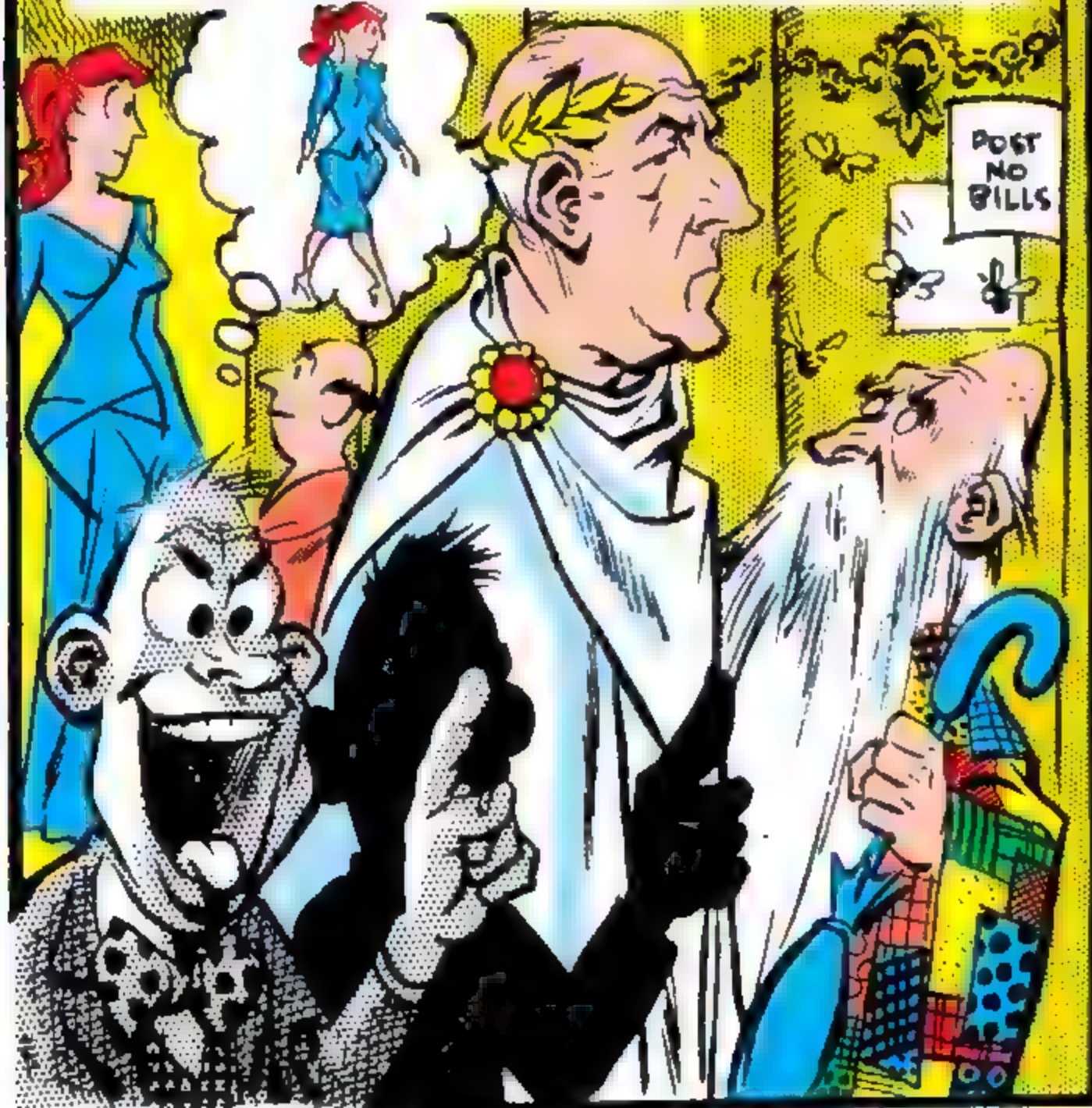


CUT YOUR OWN THROAT DEPT.: SO HERE'S THE WAY A TYPICAL-TYPE LAMPOON GOES!... FIRST YOU CHOOSE A RADIO SHOW, OR A T.V. SHOW, OR A MOVIE, OR A BOOK... SAY... 'JULIUS CAESAR'!... YOU THEN PROCEED TO RENAME IT 'SHMULIUS SHMAESER'... OR 'JULIUS, SIEZE HER'... OR 'HER SIEZE JULIUS'... AND LIKE THAT!... HOWEVER, WE WILL STICK WITH ...

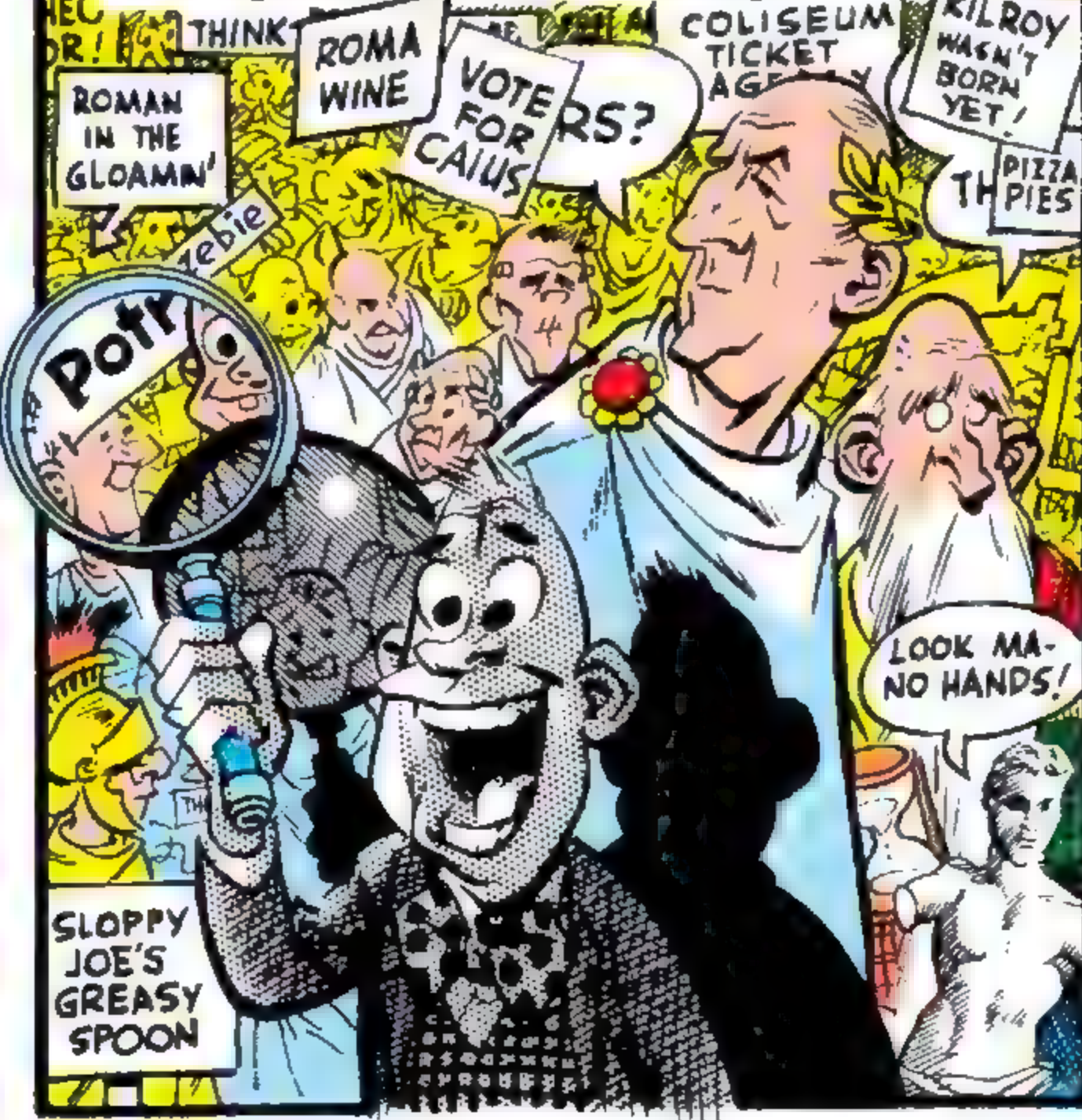
JULIUS CAESAR!



Hold it right there! Through-out this story I will, if I may, interrupt to point out the various routines that a lampoon uses...for instance routine #1...

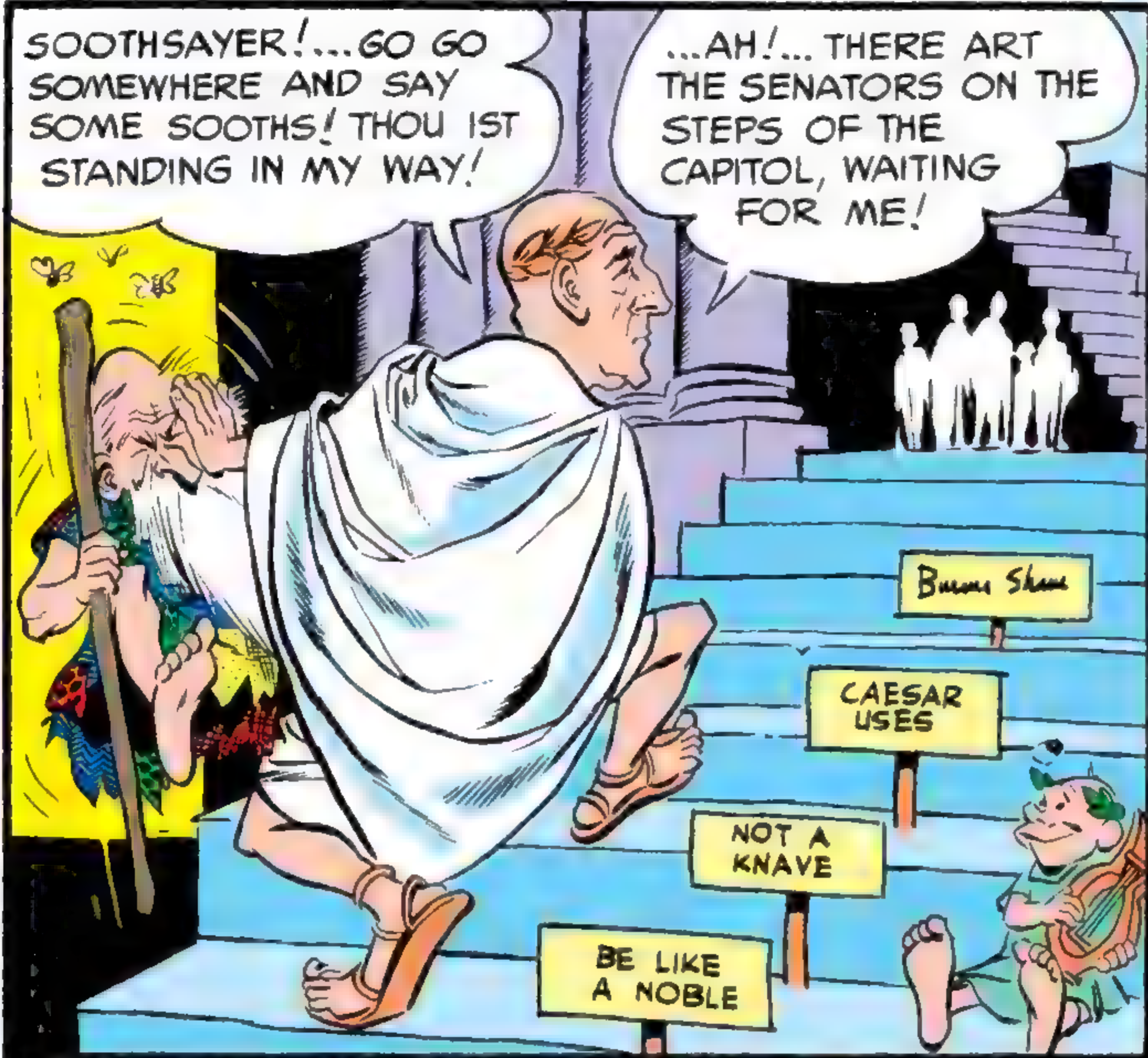


...Background details!... Where with the aid of a small microscope, you can find hours of enjoyment in thousands of funny little background drawings!



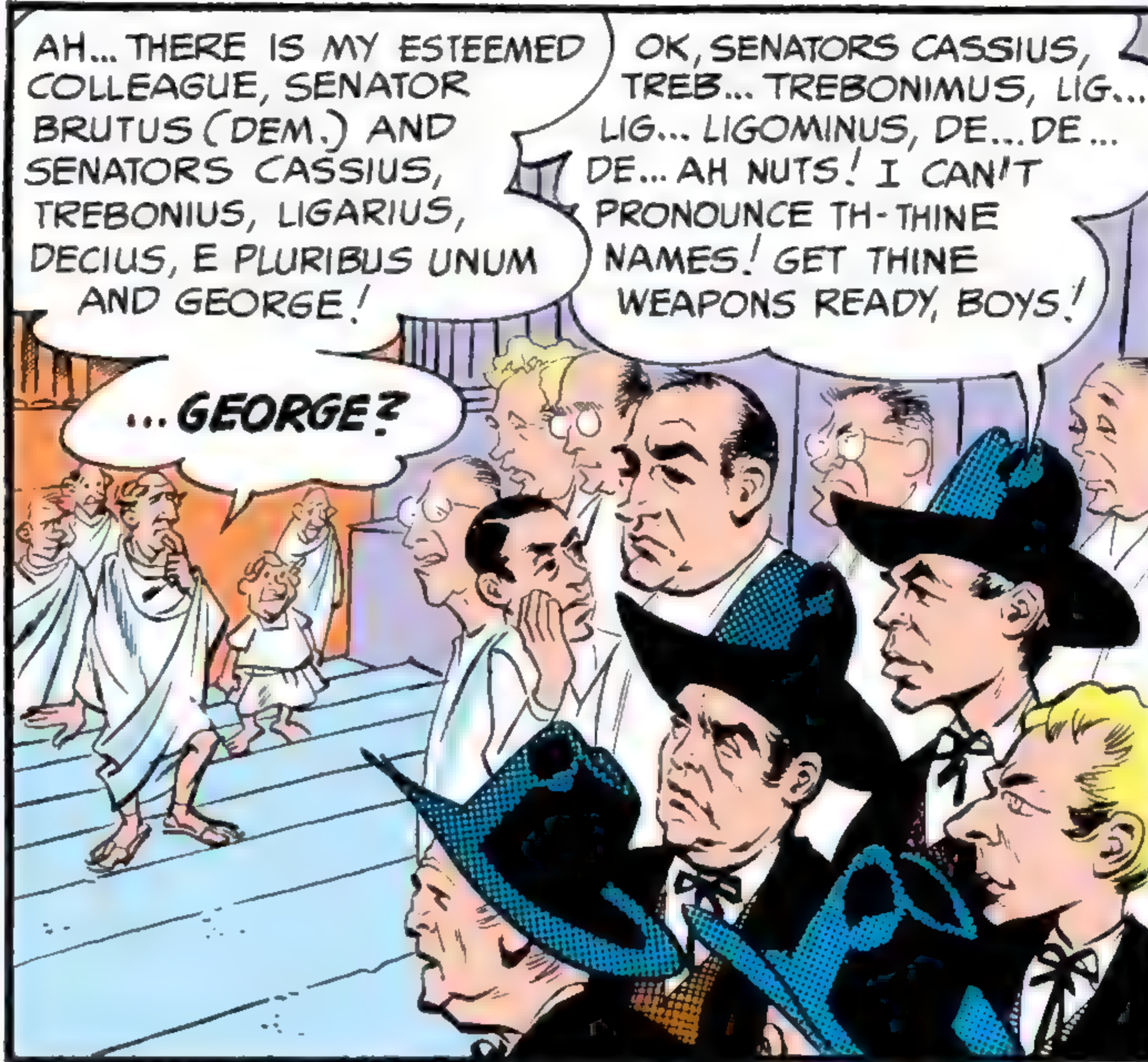
These drawings can get out of hand... very often destroying the main idea as well as your eyesight!... Well, on with the story!





SOOTHSAYER!...GO GO SOMEWHERE AND SAY SOME SOOTHS! THOU IST STANDING IN MY WAY!

...AH!... THERE ART THE SENATORS ON THE STEPS OF THE CAPITOL, WAITING FOR ME!



AH... THERE IS MY ESTEEMED COLLEAGUE, SENATOR BRUTUS (DEM.) AND SENATORS CASSIUS, TREBONIUS, LIGARIUS, DECIUS, E PLURIBUS UNUM AND GEORGE!

OK, SENATORS CASSIUS, TREB... TREBONIMUS, LIG... LIG... LIGOMINUS, DE... DE... DE... AH NUTS! I CAN'T PRONOUNCE TH-THINE NAMES! GET THINE WEAPONS READY, BOYS!

...GEORGE?



Routine #2! In this routine, although the story takes place thousands of years ago, modern things are mixed in...thus you have zoot togas... 38 cal. swords...



... and like that! So... on with the story!

OK, BOYS! CAESAR'S BEEN GETTETH TOO MUCH POWER! NEXT THING YOU KNOWETH, HE'LL BE AFTER A FOURTH TERM!



... RIGHT... AND HE'LL INVESTIGATETH OFF-TRACK BETTING AT THE COLISEUM!

BLASTETH HIM!

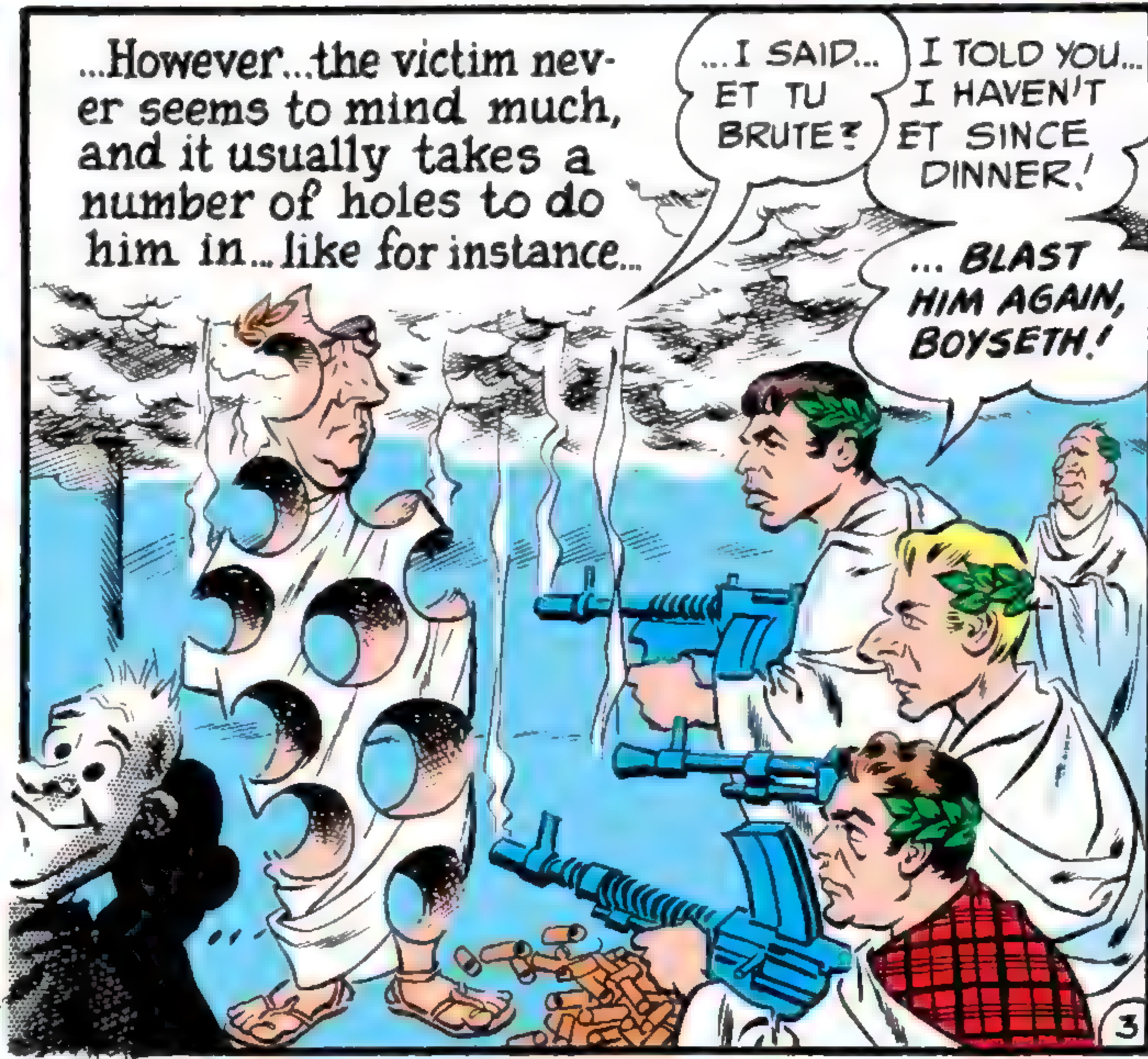


...ET TU, BRUTE?

...Routine #3...gruesome but very popular! This is where the bullets knock huge, round, clean cut holes in the victim, through which you can see daylight...

NO...I DIDN'T ET!

BANG

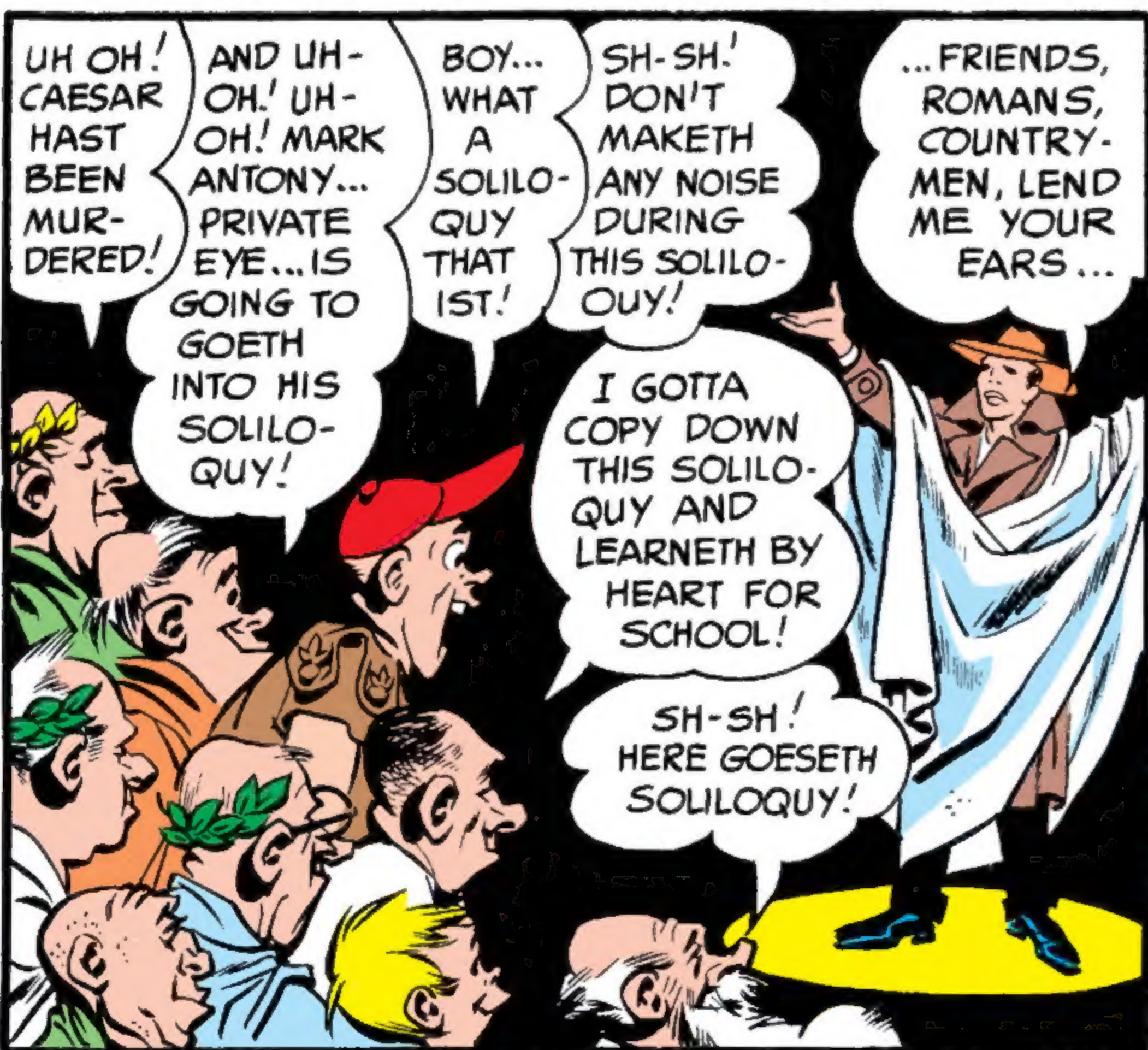
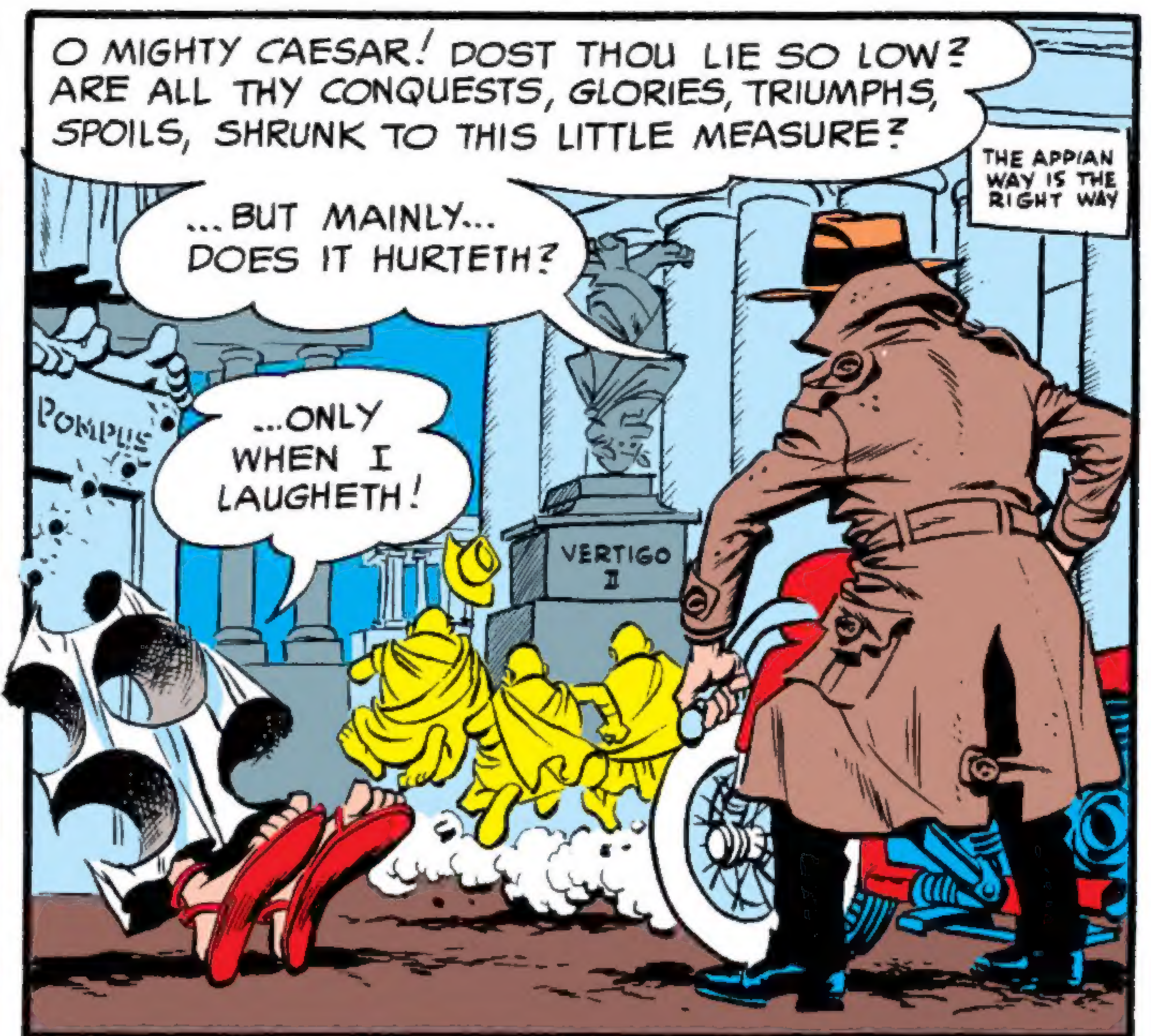
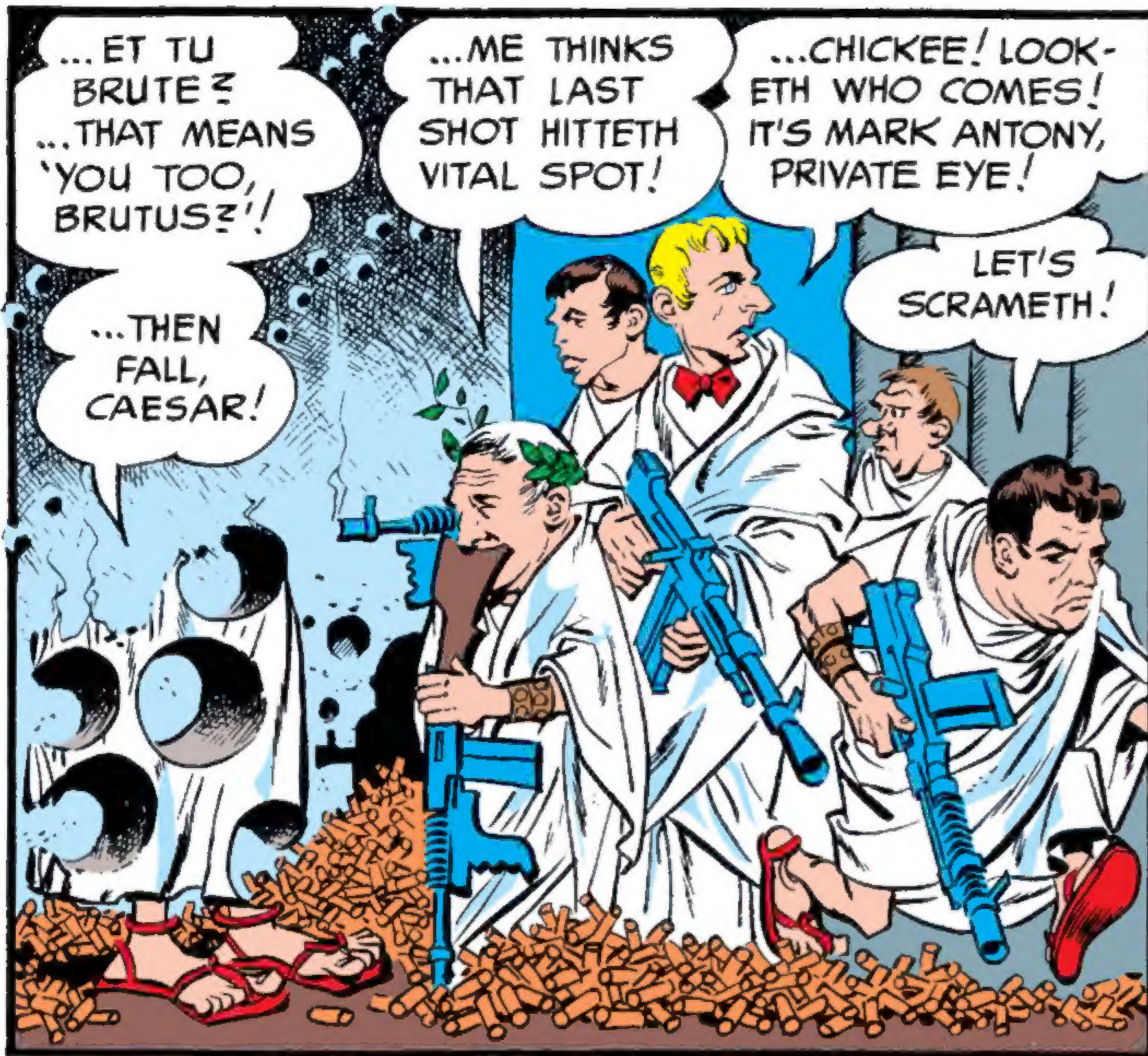


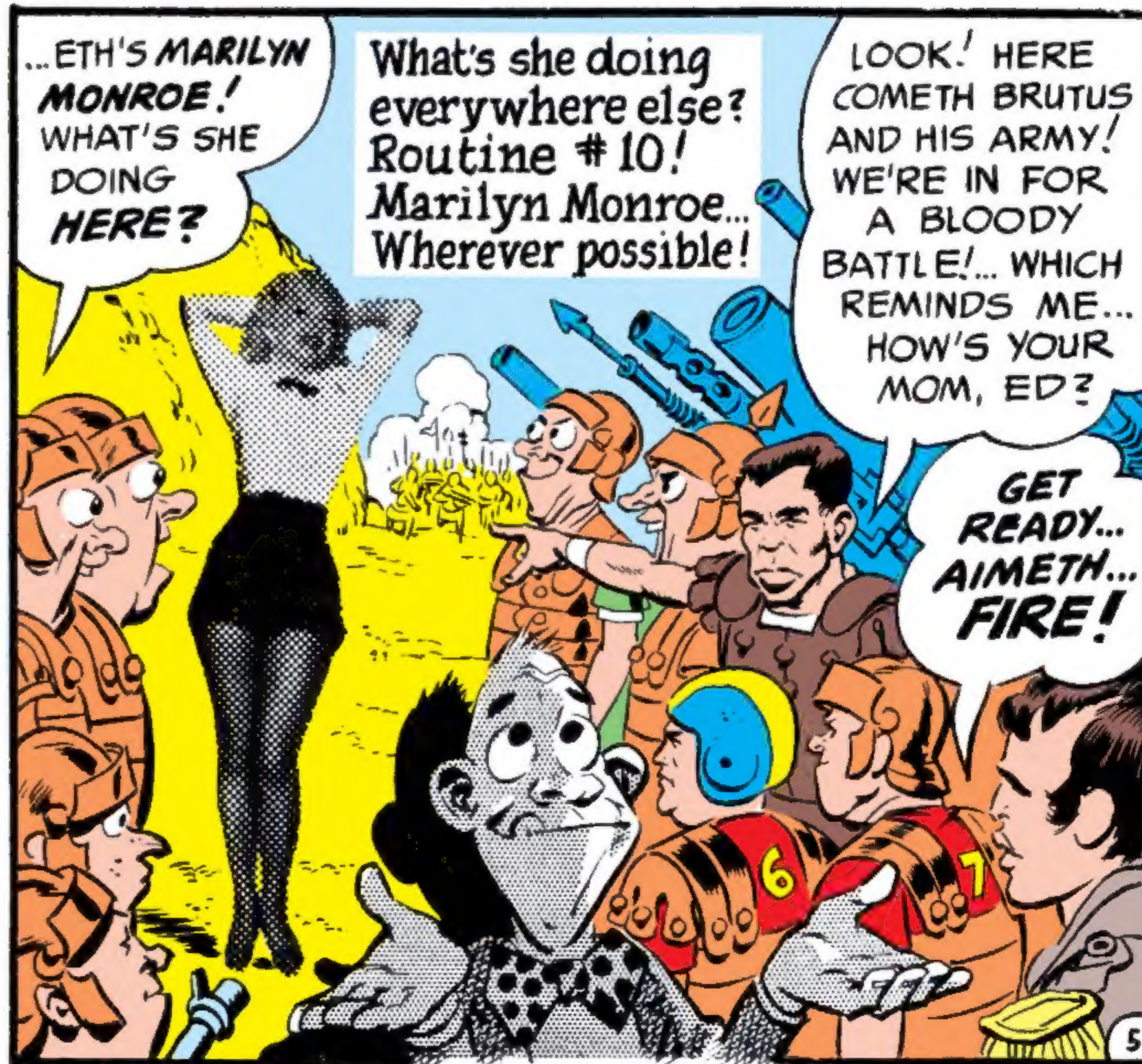
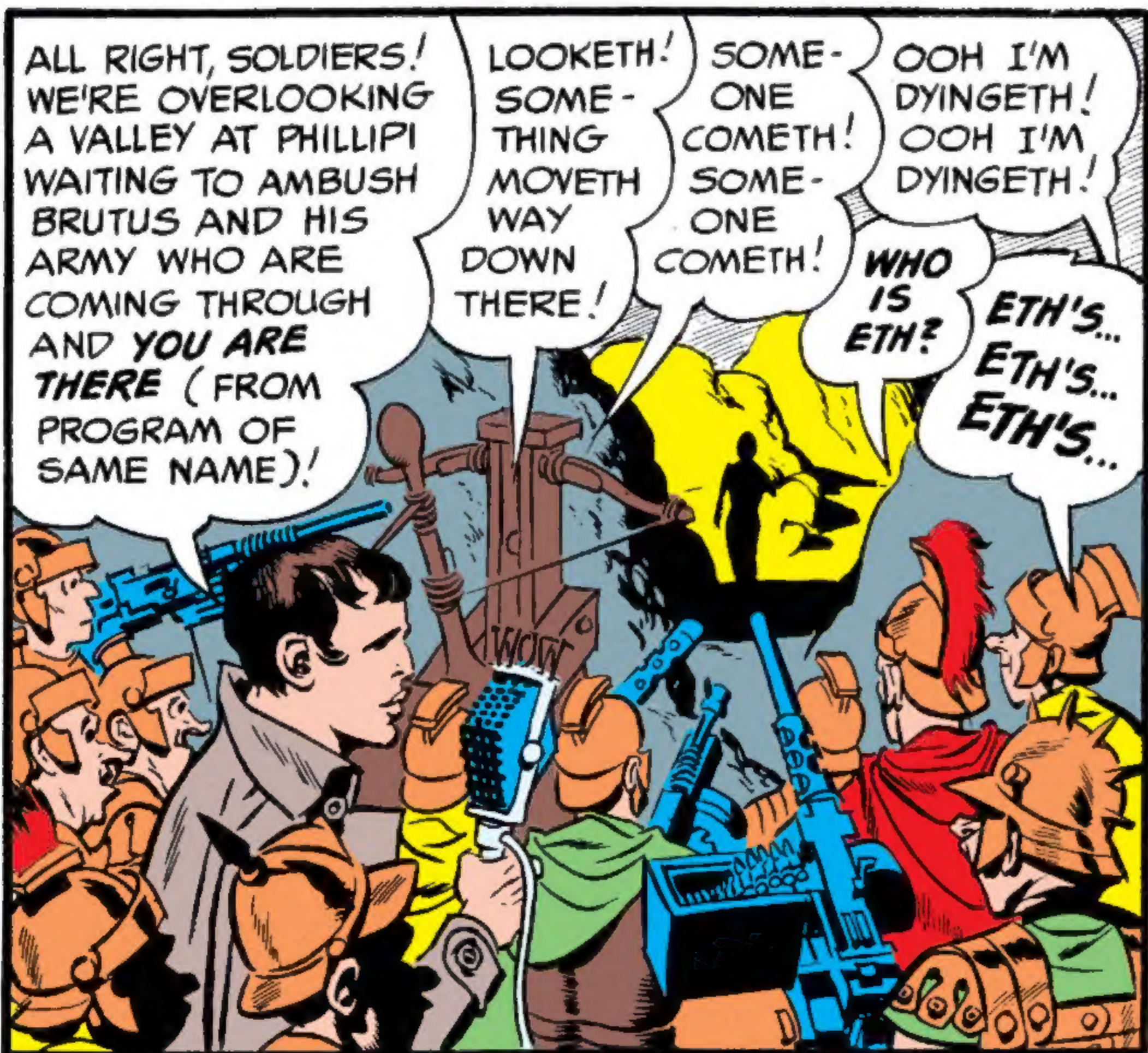
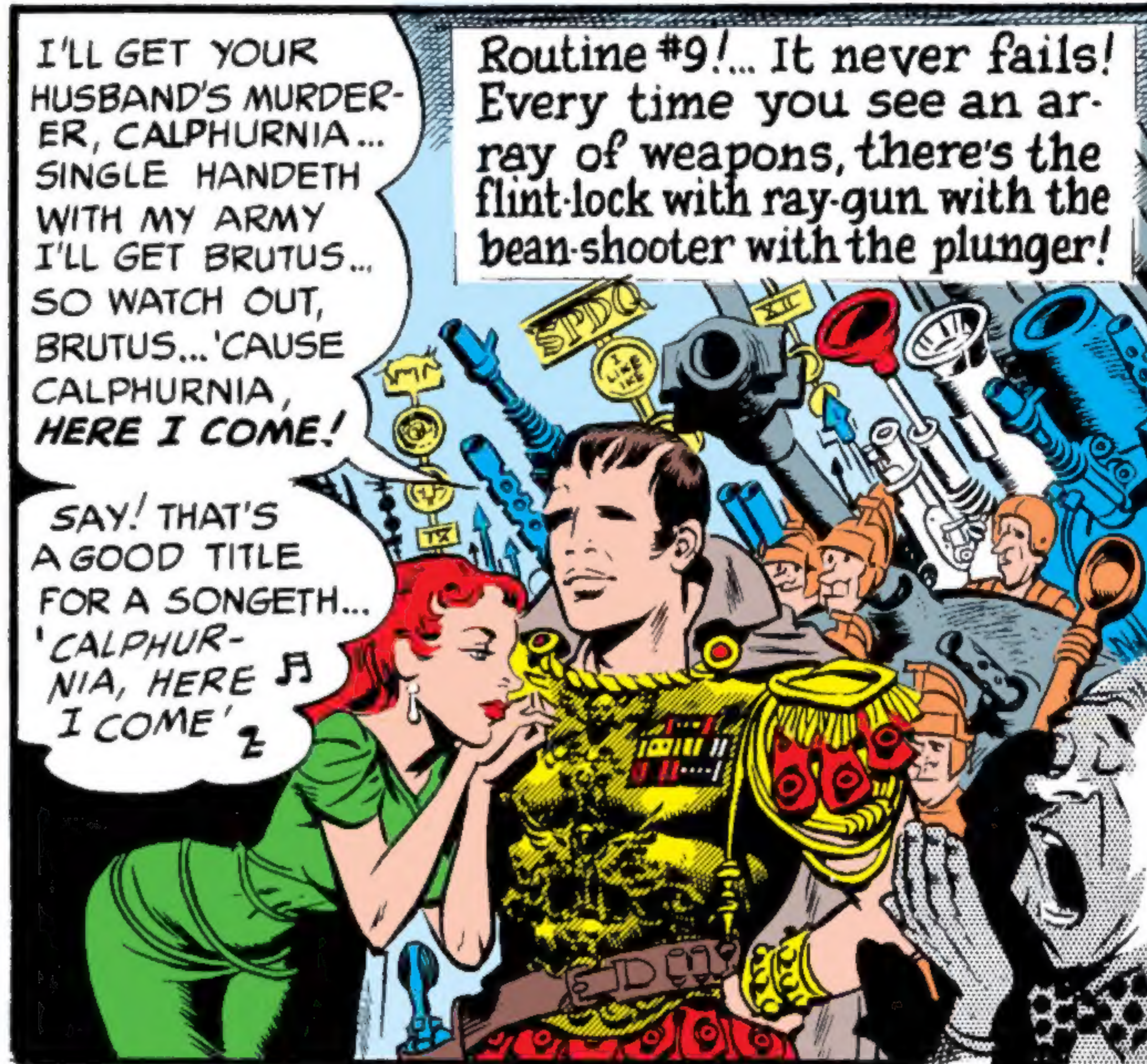
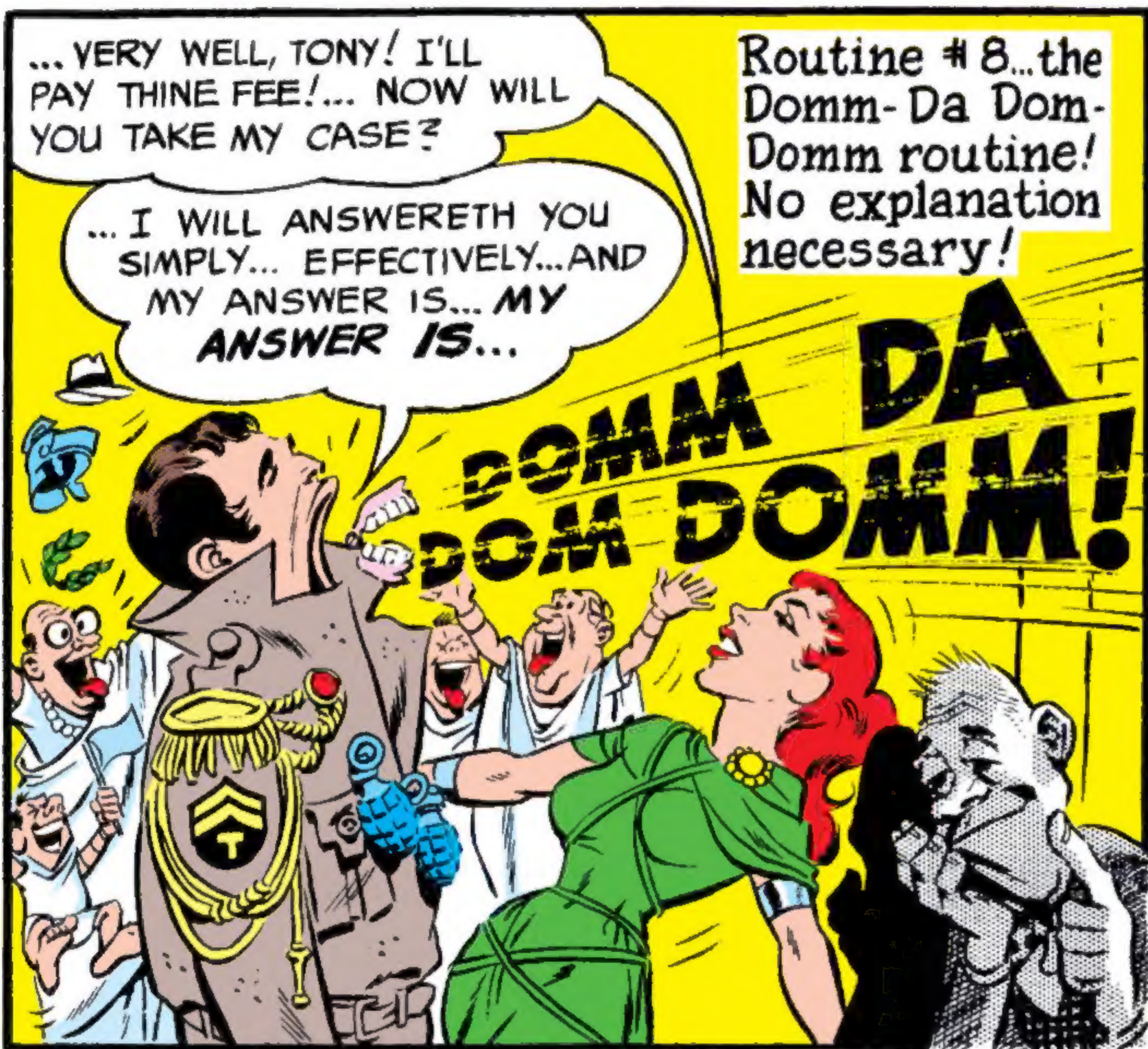
...However...the victim never seems to mind much, and it usually takes a number of holes to do him in...like for instance...

...I SAID... ET TU BRUTE?

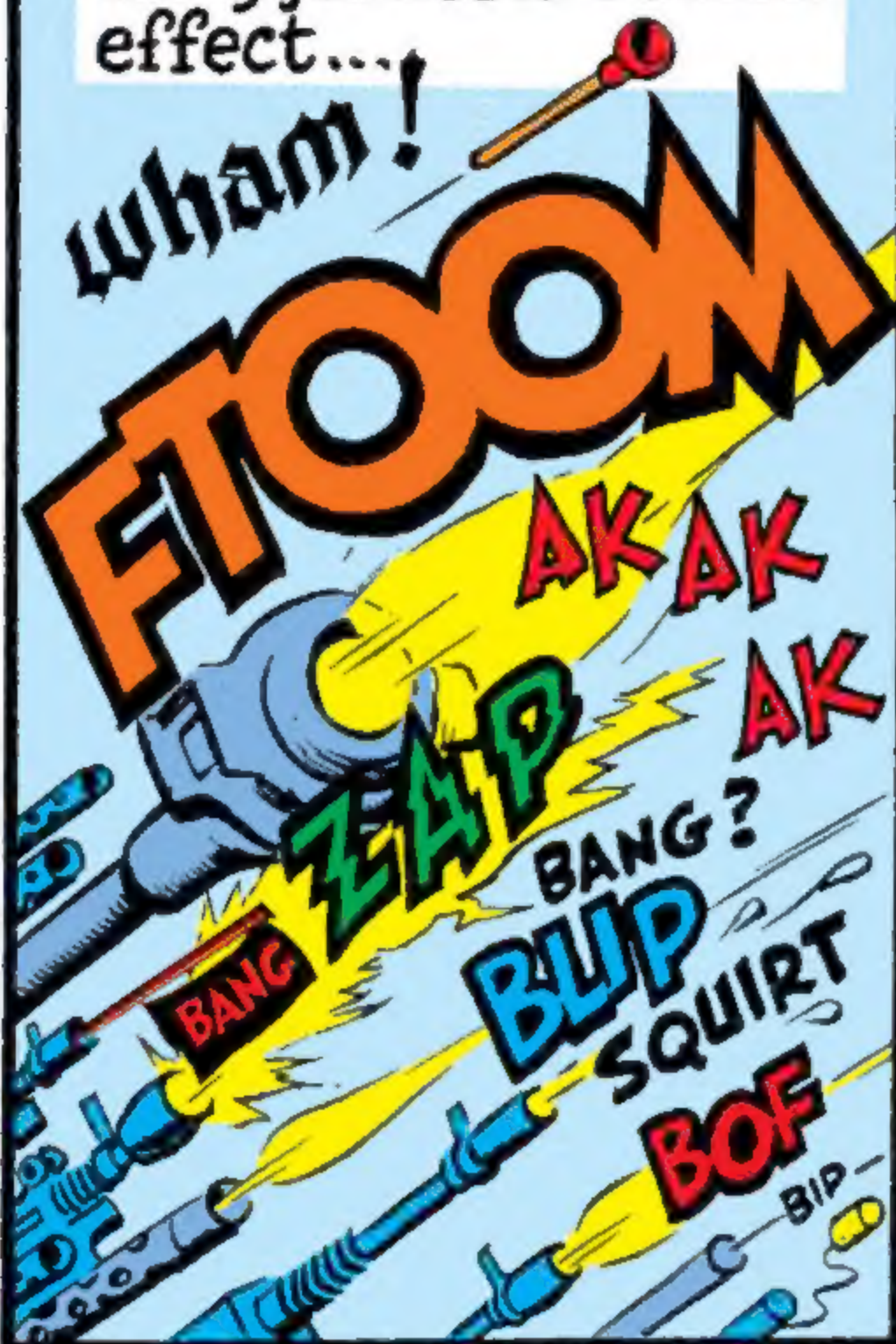
I TOLD YOU... I HAVEN'T ET SINCE DINNER!

... BLAST HIM AGAIN, BOYSETH!

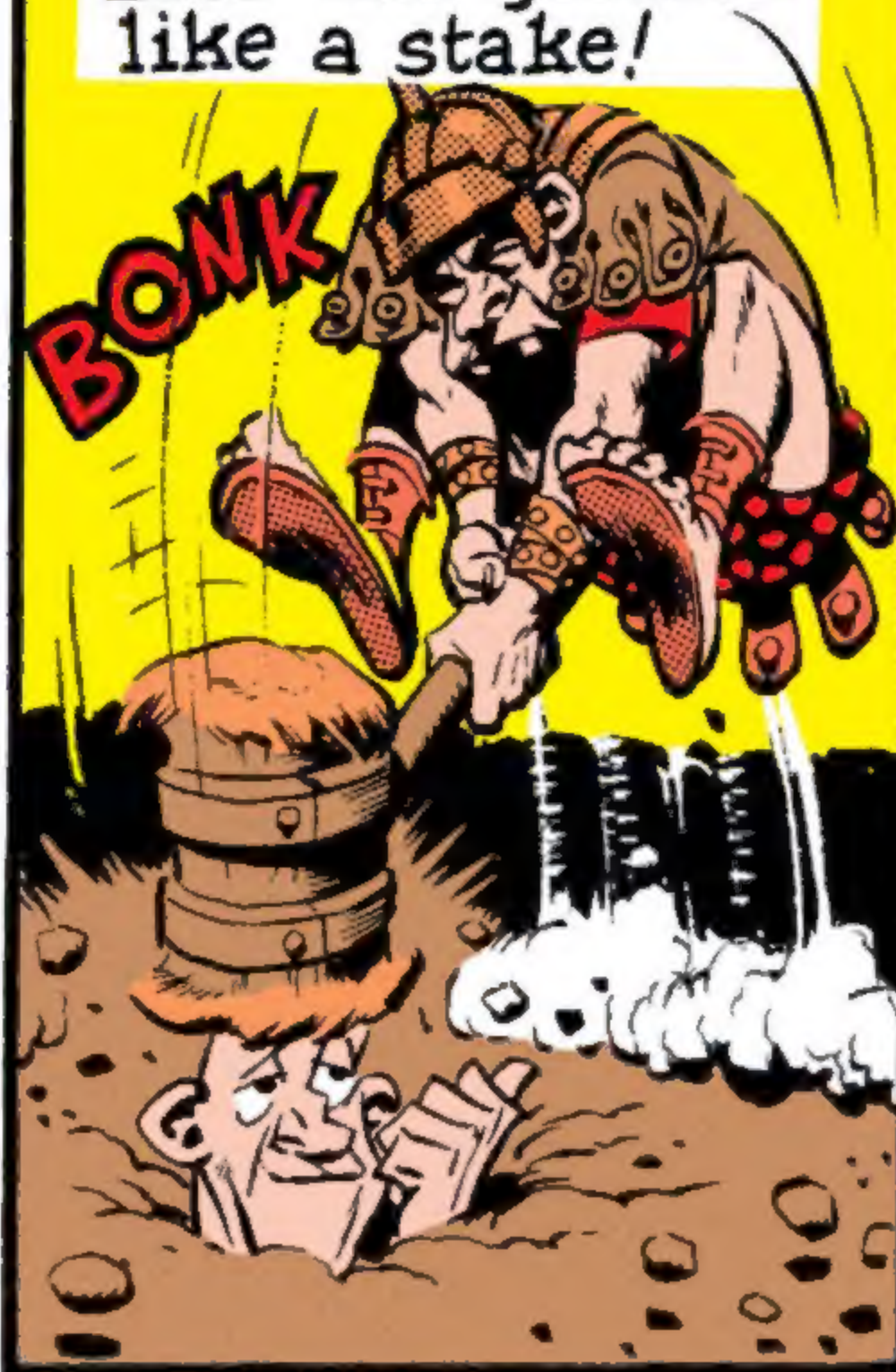




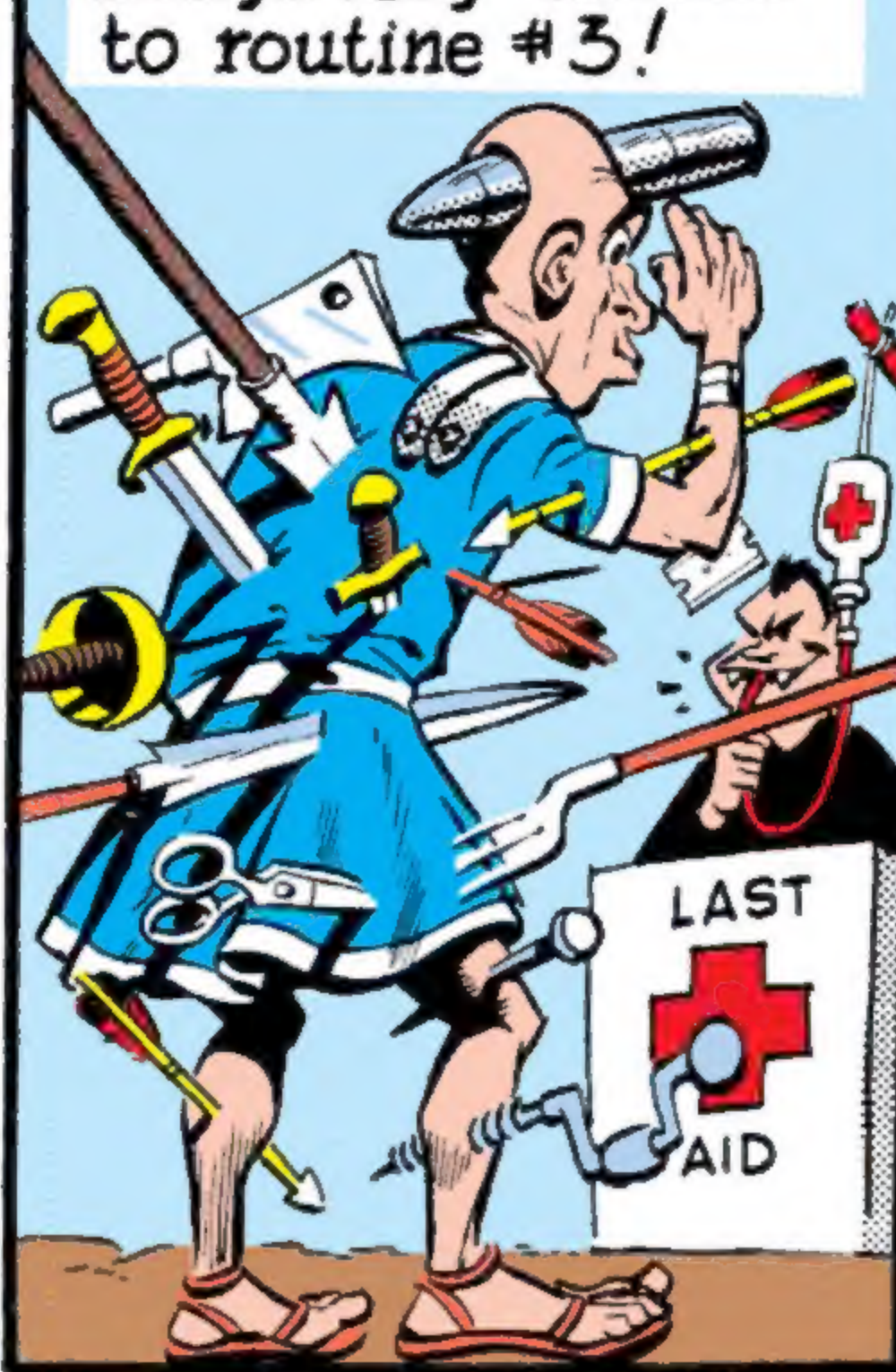
Routine #11...lampoon-type violence, like for instance (a) the exaggerated sound-effect....



...(b)... the knock on the head that drives the victim into the ground like a stake!



...(c)... the knives and other foreign objects sticking out all over body...very similar to routine #3!



...(d)...the band-aid! Puzzling though it may be...no lampoon is complete without the band-aid!



...(e)...the last example of this nauseating, busted-crutch type humor is to show an atom-bomb explosion! However, this routine we feel, is giving way to the even more hilarious picture of the Hydrogen bomb!



HUZZAH! THE ARMY OF BRUTUS IS BEATEN! THERE IS HIS TENT! LET US CAPTURE HIM BEFORE HE THROWETH HIMSELF ON HIS SWORD!

DON'T BE RIDICULOUS! WHY SHOULD HE THROWETH HIMSELF ON HIS SWORD WHEN HE CAN USETH A NICE EFFICIENT PISTOL?

...WELL THEN LET US CAPTURE HIM BEFORE HE THROWETH HIMSELF ON HIS PISTOL!



SURRENDER, BRUTUS, AND LET ME WARN THOU... ANYTHING THOU SAY WILL BE HELD AGAINST THOU!

LOOK! LOOK AT BRUTUS!

WHAT IST HE DOING?

IST HE THROWING HIMSELF ON SWORD?

IST HE THROWING HIMSELF ON PISTOL?

IST HE THROWING HIMSELF ON ROUTINE #10?

NO! NO! BETTER THAN ANY OF THAT, HE'S... HE'S...



...HE'S READING A COPY OF MAD!

Routine #12...this, of course... to show how marvelous your comic book is, you put pictures of people dying laughing reading your screamingly funny magazine!

READ DEMENTIA (MAD TO YOU)

